18 OTHER CEQA SECTIONS

18.1 ALTERNATIVES

18.1.1 CEQA REQUIREMENTS FOR ALTERNATIVES ANALYSIS

Section 15126.6(a) of the State CEQA Guidelines requires EIRs to describe "... a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." This section of CEQA also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis, as follows:

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines further require that the alternatives be compared to the project's environmental impacts and that the "no project" alternative be considered (CEQA Guidelines Section 15126.6[d] [e]).

In defining "feasibility" (e.g.," ... feasibly attain most of the basic objectives of the project ..."), State CEQA Guidelines Section 15126.6(f) (1) states, in part:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, here the Placer County Board of Supervisors. (See Pub. Resources Code, Section 21081[a] [3].)

18.1.2 FACTORS CONSIDERED IN IDENTIFYING PROJECT ALTERNATIVES

In identifying potentially feasible alternatives to the project, the ability of alternatives to meet most of the project's objectives were considered. The project objectives (see Section 3.3) are to:

- ▲ Construct and operate a small-scale, sustainable, and low-impact biomass power plant at a location close to the source material;
- Improve regional air quality and reduce greenhouse gas emissions associated with open burning of biomass waste;
- Support healthy forest management practices that improve watershed health and wildlife habitat through already planned forest thinning operations designed to reduce catastrophic wildfire risks;
- ▲ Contribute to California's renewable energy production goals through the operation of a woody biomass power plant that provides a long-term renewable electrical supply and reduces dependency on fossil fuels used to generate electricity for local consumption;
- Provide a local source of reliable, consistent power to minimize electricity disruptions;
- Demonstrate the Public-Private Partnership (PPP) model that includes partnerships between local, state, and federal agencies and local businesses for renewable energy development and forest health initiatives;
- Provide new employment opportunities in surrounding areas; and
- Utilize existing appropriately zoned land for enhancement of public utility supplies (i.e., electric generating capacity) while minimizing impacts to nearby land uses.

18.1.3 SUMMARY OF PROJECT IMPACTS

The purpose of this section is to summarize the site-specific environmental constraints, as identified and discussed in Chapters 4 through 16 of this Draft EIR. Site-specific environmental constraints and their effects on the range of alternatives considered in this Draft EIR are discussed below. Issues (e.g., land use) that would not result in any significant effects are not included in this summary.

LAND USE AND FORESTRY RESOURCES

As described in Chapter 4, Land Use and Forestry Resources, and Section 18.9, Cumulative Impacts, the project would not result in any significant project or cumulatively considerable land use or forestry resources impacts.

BIOLOGICAL RESOURCES

As described in Chapter 5, Biological Resources, the project would result in significant impacts related to nesting birds and consistency with the Placer County Tree Ordinance. However, mitigation is available to reduce these significant impacts to a less-than-significant level (see Mitigation Measure 5-1 and 5-2). No other significant biological resource impacts would occur. No cumulatively considerable biological resources impacts would occur.

CULTURAL RESOURCES

As described in Chapter 6, Cultural Resources, although no "unique" or "historic" cultural resources (per CEQA definitions) have been documented on the project site, there is the potential that unrecorded cultural or paleontological resources could be unearthed or otherwise discovered at the project site during ground-disturbing activities. In addition, the site could contain buried subsurface human remains. Mitigation is available to reduce these cultural resources impacts to a less-than-significant level. No cumulatively considerable cultural resources impacts would occur.

VISUAL RESOURCES

As described in Chapter 7, Visual Resources, while the project site is located in a remote area, and nighttime lighting would not affect significant numbers of people, the additional lighting required by the project would potentially increase sky glow effects that could adversely affect nighttime views of the sky outside of the immediate project area. Mitigation is available to reduce these visual resources impacts to a less-than-significant level. No cumulatively considerable visual resource impacts would occur.

TRAFFIC AND TRANSPORTATION

As described in Chapter 8, Traffic and Transportation, and Section 18.9, Cumulative Impacts, the project would not result in any significant project or cumulatively considerable traffic or transportation impacts.

AIR QUALITY

As described in Chapter 9, Air Quality, the project would not result in any significant project or cumulatively considerable air quality impacts.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

As described in Chapter 10, Greenhouse Gas Emission and Climate Change, the project's contribution of GHG emissions would not be cumulatively considerable. Further the effects of climate change on the project would be less than significant.

NOISE

As described in Chapter 11, Noise, and Section 18.9, Cumulative Impacts, the project would not result in any significant project or cumulatively considerable noise impacts.

GEOLOGY, SOILS, AND SEISMICITY

As described in Chapter 12, Geology, Soils, and Seismicity, the project would result in potentially significant impacts related to construction-related seismic and soil stability hazards. Mitigation is available to reduce these seismic and soil stability hazard impacts to a less-than-significant level. No significant cumulative geology, soils, or seismicity impacts would occur.

HYDROLOGY AND WATER QUALITY

As described in Chapter 13, Hydrology and Water Quality, the project would result in potentially significant construction-related soil erosion and operational water quality impacts. Mitigation is available to reduce these impacts to a less-than-significant level. No cumulatively considerable hydrology and water quality impacts would occur.

POPULATION AND HOUSING

As described in Chapter 14, Biological Resources, and Section 18.9, Cumulative Impacts, the project would not result in any significant project or cumulatively considerable population and housing impacts.

PUBLIC SERVICES AND UTILITIES

As described in Chapter 15, Biological Resources, and Section 18.9, Cumulative Impacts, the project would not result in any significant project or cumulatively considerable public service or utility impacts.

HAZARDS AND HAZARDOUS MATERIALS

As described in Chapter 16, Hazards and Hazardous Material, the project would result in potentially significant impacts related to exposure to previously undiscovered hazardous materials. Mitigation is available to reduce this impact to a less-than-significant level. No cumulatively considerable hazards and hazardous material impacts would occur

The potential for the alternatives to avoid or reduce the project's significant impacts is considered in this analysis of alternatives.

18.2 PROJECT ALTERNATIVES EVALUATED IN THIS EIR

18.2.1 DESCRIPTION OF ALTERNATIVES

With the intent of siting and developing a small-scale, wood-to-energy biomass energy facility in eastern Placer County that would locate a plant close to the source of forest-based fuel and that would allow for construction in the near-term, the County considered potential sites within eastern Placer County within and outside of the Lake Tahoe Basin.

Based on the requirements of State CEQA Guidelines Section 15126.6 and the project's objectives, the following alternatives to the project were identified for evaluation in this EIR:

- No Project Alternative,
- Direct Combustion Technology Alternative, and
- ▲ Alternative Site with Gasification Technology Alternative.

18.2.2 NO PROJECT ALTERNATIVE

State CEQA Guidelines Section 15126.6(e) (1) requires that the no project alternative be described and analyzed "to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project." The no project analysis is required to discuss "the existing conditions at the time the notice of preparation is published...as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (Section 15126.6[e][2]). "If the project is ... a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (Section 15126[e][3][B].)

DESCRIPTION

The 3.7-acre project site contains one temporary caretaker's residence and an existing cell tower. The site is otherwise undeveloped and contains undeveloped and forested land. There are no plans to expand existing Eastern Regional MRF and Transfer Station operations, County DPW and TART facilities, or any other uses at this site if the project were not implemented. Therefore, this alternative assumes that the site would remain in its current state with no changes to the site's existing environment. This alternative would not meet any of the project's objectives.

IMPACTS OF THE NO PROJECT ALTERNATIVE

With implementation of the No Project Alternative, the site's current environmental conditions would remain unchanged. The baseline environmental conditions for the site documented in this Draft EIR would continue into the future with this alternative. The project's anticipated grading, excavation and site construction activities would not occur and the environmental impacts associated with these activities would be avoided (i.e., biological resources [nesting bird impacts, tree removal); hydrology and water quality, cultural resources; geology, soils, seismicity, and hazards and hazardous materials. With the exception of the air quality and GHG emissions issues discussed below, the project's operational impacts and the project's contribution to cumulative impacts would not occur with this alternative (i.e., traffic, nighttime lighting, etc.). Please see Section 17.2, Summary of Project Impacts, above with regard to the environmental impacts that would be avoided with this alternative.

AIR QUALITY

Under the No Project Alternative, the proposed biomass plant would not be constructed and the project site would not be developed. Construction-related emissions of criteria air pollutants and precursor emissions would not be generated at the site. Based on correspondence with U.S. Forest Service staff, the majority of forest-sourced biomass would be piled and burned on forest lands (Conway, pers. comm. 2012; Fournier, pers. comm. 2012). This burning would occur in the Mountain Counties Air Basin (MCAB) and the Lake Tahoe Air Basin (LTAB), including the jurisdictions of the Placer County Air Pollution Control District (PCAPCD), the El Dorado County Air Pollution Control District (EDCAPCD), and the Northern Sierra Air Quality Management District (NSAQMD). Open burning of biomass would generate more emissions per mass of biomass burned in comparison to the controlled conversion of the biomass into energy via gasification within a biomass facility that is designed to optimize energy output. Emission levels from open burning were estimated using emission factors and combustion efficiencies published by ARB (ARB 2006) and are presented in Table 18-1. Detailed calculations are included in Appendix D. For sake of comparison, the maximum daily operational emissions of the proposed biomass plant are also presented in Table 9-7.

As shown in Table 18-1, average daily emissions from open burning under the No Project Alternative would be greater than maximum daily emissions of criteria air pollutants and precursors associated with operation of the project. Average daily emissions of criteria air pollutants and precursors under the No Project Alternative would also exceed the mass emission thresholds established for NO_X , ROG, and PM_{10} by PCAPCD, EDCAPCD, and NSAQMD.

Because a biomass facility would not be constructed under this alternative, there would be no increase in TAC emissions at the project site and no increased potential for odor complaints. In addition, no new vehicle trips would be generated and no increase in localized CO emissions would occur. (Lesser)

Overall, air quality impacts associated with the No Project Alternative would be greater than what would occur with the project (Greater).

Table 18-1	Average Daily Emissions of Criteria Air Pollutants and Precursors
Generated by Open I	Burning of Forest-Sourced Biomass vs. Biomass Plant Operations (lbs/day)

	NO _X	ROG	PM ₁₀	PM _{2.5}
Open Burning, Average Daily	428.2	557.5	917.2	778.3
Biomass Plant Operations, Maximum Daily	77.7	77.5	29.5	17.5
PCAPCD Thresholds of Significance	82	82	82	None
EDCAPCD Thresholds of Significance	82	82	none	none
NSAQMD's Level C Threshold of Significance ¹	136	136	136	none

Notes:

ROG = reactive organic gases NO_X = oxides of nitrogen

PM₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less PM_{2.5} = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less

lbs/day = pounds per day

PCAPCD = Placer County Air Pollution Control District
EDCAQMD = El Dorado County Air Quality Management District
NSAOMD = Northern Sierra Air Quality Management District

¹ NSAQMD states that project-related emissions of NO_x, ROG, or PM₁₀ that exceed its Level C threshold of 136 lbs/day are considered to be significant (NSAQMD 2009).

See Appendix D for detailed assumptions and calculations. Source: Emission levels estimated by Ascent Environmental 2012.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Under the No Project Alternative, the proposed biomass plant would not be constructed and the project site would not be developed. Construction-related GHG emissions would not be generated at the site. As discussed above, the majority of forest-sourced biomass would be piled and burned on forest lands instead of being hauled and used by a biomass power plant (Conway, pers. comm. 2012; Fournier, pers. comm. 2012). Based on ARB-approved emission factors published by the Intergovernmental Panel on Climate Change (IPCC 2006), open burning of the biomass that would be consumed by the plant during the course of a year, would generate approximately 24,858 metric tons of carbon dioxide-equivalent per year (MT CO₂e/year). For sake of comparison, the operational emissions of the proposed biomass plant, including both stack emissions and support-related activities (e.g., chipping, truck hauling) would be 28,667 MT CO₂e/year, as presented in Table 10-3. Detailed calculations are included in Appendix D.

Whether other renewable energy power plants would be constructed to enable California to achieve the GHG reduction measures identified in ARB's Scoping Plan for the electricity sector (ARB 2011b) is uncertain, and the extent to which they would generate operational GHG emissions is unknown. What is known within the purview of this analysis is that more open burning would occur without implementation of the proposed project and, notwithstanding the statewide goal to meet electricity demand in a GHG-efficient manner, less GHG emissions would be generated by open burning than by the proposed project. (Lesser).

CONCLUSION

The No Project Alternative would avoid the project's potentially significant environmental impacts (i.e., biological resources; cultural resources; hydrology and water quality; geology, soils, and seismicity; nighttime lighting, and hazardous materials). However, this alternative would result in a potentially significant impact associated with the continued burning of wood biomass by resource management agencies such as TNF and LTBMU. With the project, a portion of the woody biomass currently burned would be diverted and sent to the biomass facility where substantially reduced emissions would occur. Under this alternative, woody biomass would continue to be burned at management sites. This ongoing activity represents a potentially significant impact that would not occur under the project. While this alternative would reduce the project's significant

environmental impacts, it would not meet any of the project's objectives especially those related to improving air quality and GHG emissions associated with open burning of woody biomass. Overall, this alternative would result in environmental tradeoffs compared to the project.

18.2.3 DIRECT COMBUSTION TECHNOLOGY ALTERNATIVE

DESCRIPTION

The Direct Combustion Technology Alternative would include construction of a two MW biomass energy facility at the proposed 3.7-acre project site that utilizes a direct combustion technology for wood-to-energy production rather than the gasification technology associated with the project. Similar to the proposed project, this alternative would require approval of a Conditional Use Permit by Placer County. Facility ownership and employment and many of the site improvements would be the same as the project. The description below focuses on the differences in the technologies and physical changes at the site that would occur if a direct combustion technology were to be implemented. As with the project, the Direct Combustion Technology Alternative would meet all of the basic project objectives.

TECHNOLOGY OVERVIEW

Direct combustion systems generate electricity through the production of steam in a boiler, and use of the steam in a steam turbine. In direct combustion systems, the biomass fuel is directly burned (combusted) in a furnace or combustion unit under controlled conditions to minimize emissions and the heat that is generated is supplied to a boiler. Common boilers used for biomass direct combustion systems include traditional "stoker boilers" (where woody material burns on a grate with air needed for combustion supplied both from under the grate and above the burning bed), and "bubbling fluidized bed boilers" (where woody material burns in a suspension with inert materials, forced through upward-directed air jets). The boiler then creates steam for powering the electric generator. Nearly all commercial biomass power applications today use direct combustion boiler systems in conjunction with a steam turbine to generate electricity. Exhibit 18-1 illustrates a direct combustion system flow process. Direct combustion also produces ash that remains as solids and must be disposed of or may be used for other products such as soil amendment or concrete amendment.

BUILDINGS AND GENERAL SITE IMPROVEMENTS

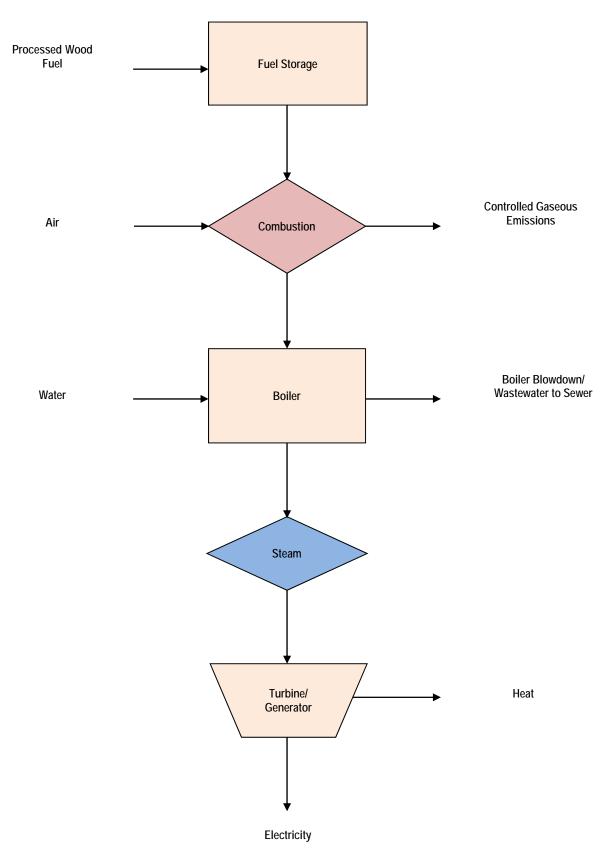
Exhibit 3-5 shows the layout of project buildings, material storage areas, parking areas, and site access driveways on the 3.7-acre project site and the connection to the existing offsite distribution line and transmission system for the project. The buildings and site improvements would be the same with the Direct Combustion Technology Alternative, except that a direct combustion system would require that a baghouse, ash container, and cooling tower be located outside of the building.

ONSITE EQUIPMENT

The following includes a list of onsite equipment associated with a direct combustion system that would generate air and/or noise emissions, and identifies whether the equipment would be stored inside or outside of the buildings with the Direct Combustion Technology Alternative:

- small front loader to move fuel to walking floor and fuel conveyance system (inside storage building, primarily);
- boiler system (inside power building);
- turbine generator (inside power building);
- various pumps (inside power building);

- induction fans to supply combustion air (inside power building);
- ▲ HVAC system (partially outside);
- baghouse with electric motors for moving ash (outside power building)



Source: TSS Consultants 2010

Exhibit 18-1

Direct Combustion Schematic

UTILITY IMPROVEMENTS

Under the Direct Combustion Technology Alternative, except for the increases in water demands described below, other utility improvements and connections would be the same as the project.

Water

As with the project, water service to the site with a direct combustion system would be provided by onsite water storage tanks. A direct combustion system requires a greater amount of water than a gasification system, as water is required for condensing steam and supplying the boiler and cooling tower. Depending on manufacturer, a direct combustion system would require water at a continuous flow between 15 and 20 gpm, or 21,600 to 28,800 gpd. As with the project, the Direct Combustion Technology Alternative would also include restroom and fire suppression equipment (including a sprinkler system within the building and three fire hydrants at locations determined in consultation with the Truckee Fire Protection District that would require additional water.

Wastewater

Unlike a gasification system (which is non-consumptive), a direct combustion system would consume approximately half of the water required for operation, where much of the water would either be evaporated or recycled through the system. Therefore, with the Direct Combustion Technology Alternative outgoing wastewater flows would be between 7.5 and 10 gpm, which equates to approximately 10,800 to 14,400 gpd. The residual water would be high in suspended solids (e.g., calcium, salts) and would require pretreatment before discharge to the TCPUD sewer mains that connect to T-TSA's sanitary sewer system.

HAZARDOUS MATERIALS STORAGE

With the Direction Combustion System Alternative, hazardous materials use and storage during construction would be the same as the project. Table 18-2 shows the estimated quantities of hazardous materials that would be stored at the site using a direct combustion system.

Table 18-2 Hazardous Materials Storage Quantities for a Direct Combustion					
Material Type	Estimated Quantity	Storage and Containment			
Propane (for start-up)	250 gallons	Metal propane tank			
Turbine oil	1-55 gallons	Metal drum on secondary containment pallet			
Gear oil	1-55 gallons	Metal drum on secondary containment pallet			
Hydraulic oil	1-55 gallons	Metal drum on secondary containment pallet			
Urea pellets (for NO _x control system)	Up to 1,000 pounds	Steel or plastic tank in secondary containment basin			
Biocide (non-hazardous - for cooling water system)	1-55 gallons	Plastic drum on secondary containment pallet			
Water treatment chemicals (non-hazardous softeners) for boiler water	2-55 gallons	Plastic drums on secondary containment pallet			
General maintenance chemicals, oils, and paints	< 5 gallons each	Metal and plastic containers stored in chemical storage locker			
Source: Placer County 2010					

FUEL SUPPLY AND DELIVERY

The sources of fuel for the Direct Combustion Technology Alternative would be the same as the project (solely renewable woody biomass), which would allow for certification as a renewable energy facility by the CEC. Direct combustion systems are not typically as efficient as gasification systems. To generate two MW of power using a direct combustion system, the plant would consume between 15,000 and 20,000 BDT of woody biomass fuel

annually, as compared to the 14,000 to 17,000 BDT of fuel required for the gasification system associated with the project.

Assuming 235 delivery days, using a direct combustion system, an estimated 64 to 85 BDT of biomass material would be delivered to the site on a typical weekday. As with the project, chip vans with a capacity of 12.5 BDT or 93 cubic yards would be used to haul materials to the site. Based on the volume of material required to fuel the facility on a yearly basis and the number of days that material could be delivered, it is estimated that up to 1,600 truck trips would occur annually under the Direct Combustion Technology Alternative.

All other fuel sourcing, processing, handling, storage, and recordkeeping details would be the same as the project.

ASH HANDLING

With forest-sourced woody biomass, generally there would be approximately three to five percent ash produced per volume of woody biomass input (similar to the amount of biochar produced in a gasification system) associated with this alternative. Therefore, the 15,000 to 20,000 BDT of woody biomass used in power generation under the Direct Combustion Technology Alternative would yield an estimated 450 to 1,000 tons of ash per year, or between about 8 and 19 tons per week.

In a direct combustion system, the ash would be captured by an exterior baghouse. The baghouse would be equipped with a sprinkler system, or other type of fire suppression system. Generally, this is a conical collection vessel at the bottom of the baghouse from which the ash would be transferred to a containment bin for offsite shipment. The connection between the exit port of the baghouse and the container would be sealed to avoid the release of any particulate matter/fugitive dust. A telescoping, vacuum equipped hose would load the container through a small hole in the container lid. The ash coming out of the baghouse would be hot.

Assuming approximately 1,080 pounds of ash per cubic yard, the removal of ash from the site would require off-haul and disposal of between 15 and 35 cubic yards of ash per week, which could be accomplished using two to four 10-cubic yard truckloads per week. The ash would be fully contained within the trucks so that no ash would be exposed to wind during its transport. No ash would be stored in open piles on the site.

Ash generated at the site would either be reused in one of several non-disposal applications (e.g., building materials, road sub-base materials, or as a soil amendment), or disposed of at an appropriately permitted facility (e.g., Lockwood Regional Landfill in Sparks, Nevada). While ash could be reused, the ultimate fate and feasibility of this is unknown at this time. Therefore, for purposes of the technical analysis included herein, it is assumed that all ash would be hauled to Lockwood Regional Landfill in Nevada.

IMPACTS OF THE DIRECT COMBUSTION TECHNOLOGY ALTERNATIVE

LAND USE AND FORESTRY RESOURCES

Impacts associated with land use consistency and forest conversion resulting from this alternative would be similar to those that would occur under the project with gasification technology. This alternative would be constructed at the same location as the project (i.e., at the Eastern Regional MRF and Transfer Station) and would remove the same area and trees from forest uses (i.e., 44 trees). As described for the project, this would not be a significant impact because the project site is small and contains limited forestry resources. Substantial forestry resources (thousands of acres) are and would continue to be available surrounding the site and the project would not directly or indirectly affect the use or management of these resources. The project would continue the purpose and intent of the County's designation for the site to provide facilities that are important

to maintain the County's health and welfare. Overall, land use and forestry impacts under this alternative would be less than significant. (Similar)

BIOLOGICAL RESOURCES

This alternative would result in similar biological resource impacts compared to the project because this alternative would be constructed at the same project site and would include the same site disturbance activities (nesting bird impacts and tree removal) as the project. Implementation of Mitigation Measures 5-1 and 5-2 (a and b) would reduce this alternative's potential impacts related to nesting bird loss and consistency with Placer County's tree ordinance to a less-than-significant level. This alternative would require additional equipment and fans that potentially could generate slightly more noise (approximately 1 db increase), but this noise is not expected to create a substantial difference in wildlife use of the area because truck and equipment noise at the site already exists. This alternative would require slightly more woody biomass fuel to generate the same amount of energy as a gasification facility (i.e., the project), which could result in greater use of forest residuals. However, there is adequate biomass available to meet these demands (Placer County Planning Department 2011) and this alternative would not increase the number of variety of forest management projects that are planned (Conway, pers. comm. 2012; Fournier, pers. comm. 2012). Overall, this alternative would result in similar impacts. (Similar)

CULTURAL RESOURCES

Impacts to cultural resources resulting from this alternative would be substantially the same as those that would occur under the project. The Direct Combustion Technology Alternative would be constructed at the same location as the project (i.e., at the Eastern Regional MRF and Transfer Station). The building footprints and site improvements for this alternative would generally be the same as the project, but would incorporate additional facilities within the footprint. Therefore, the same potential to uncover previously undiscovered historic, archaeological, and paleontological resources and human remains would occur. Mitigation recommended for the project (Mitigation Measures 6-1 through 6-3) would reduce the potentially significant cultural resources impacts of this alternative. Therefore, cultural and paleontological resource impacts under this alternative would be less than significant and would be similar to impacts that would occur with the project. (Similar)

VISUAL RESOURCES

The Direct Combustion Technology would result in similar visual alterations to the site and surrounding landscape because similar structures (i.e., size, height, and mass) would be placed on the site, a similar area would be developed. This alternative would operate 24 hours per day and would require similar nighttime lighting as the project, which could result in potentially significant skyglow impacts. Mitigation recommended for the project (Mitigation Measure 7-3) would reduce the potentially significant nighttime lighting impact of this alternative.

One potential visual change associated with this alternative is that it is likely that a visible moisture plume would form at the exhaust stack because of the high temperatures of the exhaust. The plume would form when ambient air temperatures go below 40-50° F and/or when there is higher humidity. As temperatures drop, the plume would extend for a longer distance and would start forming closer to the exhaust stack exit. The height of the plume is dependent on the weather condition; the colder and calmer the higher the plume. Under certain back lighting and sun angle conditions, the moisture plume could have a dark purple/grey/brown color. Visibility would depend upon a number of variables, temperature, humidity, wind speed, and direction. The plume would be visible on and adjacent to the project site and the Eastern Regional MRF and Transfer Station site. The plume may also be visible from some distance from the proposed facility; possibly from areas to the east of the Truckee River canyon where recreational trails are located, approximately 0.8 mile away. While there may be times when the plume could be visible, these occurrences would be infrequent and would most likely be screened by vegetation.

Further, during the colder winter months, surrounding recreational areas are not likely to be heavily used because of the presence of snow and limited access opportunities. While some visual changes would occur with this alternative, it is not anticipated that any substantial and adverse aesthetic effects that would degrade the existing visual character of the site or its surroundings would occur. Therefore, this alternative would have less-than-significant visual impacts (Similar).

TRANSPORTATION AND CIRCULATION

Under this alternative, the biomass plant would require a slightly greater volume of fuel (64 to 85 BDT per day) to meet the energy needs of the facility. As with the project, chip vans with a capacity of 12.5 BDT or 93 cubic yards would be used to haul materials to the site. Based on the volume of material required to fuel the facility on a yearly basis and the number of days that material could be delivered, it is estimated that up to 1,600 truck trips would occur annually under this alternative. This would be 240 more trips than would occur with the project on a yearly basis. Spread out throughout the approximate six month delivery season, this would result in an additional 1-2 truck trips per day. Because the study intersection (SR 89/Cabin Creek Road) is currently operating at LOS A and would continue to do so with implementation of the project, it is not anticipated that the additional 1-2 truck trips would cause this intersection to degrade to an unacceptable LOS (i.e., LOS E or worse). Further, this alternative would result in the same number of employees and same access driveways. Therefore, employee traffic trips and project access impacts would be the same as for the project. Overall, this alternative would result in similar transportation impacts. (Similar)

AIR QUALITY

Under this alternative, the biomass plant would employ direct combustion technology rather than gasification technology. The levels of criteria air pollutants and precursor emissions generated during construction of the plant would be very similar to the project because the type of construction activities, types of equipment, and duration of the construction period would not be substantially different.

The use of direct combustion technology to produce power rather than gasification technology would result in different levels of operational criteria air pollutants and precursors, which are summarized in Table 18-3. Detailed calculations, modeling, and input parameters are provided in Appendix D.

As shown in Table 18-3, the Alternative Technology Alternative would result in maximum daily ROG emissions of 12.3 lbs/day, which is lower than the project, 77.5 lbs/day (shown in Table 18-1). The reduced ROG emission levels occur because direct combustion technology is more efficient with respect to ROG emissions than gasification technologies.

The maximum daily NO_X emission level under the Alternative Technology Alternative would be 125.7 lbs/day, which is greater than the 77.7 lbs/day of NO_X that would be generated by the project. This is primarily because direct combustion technology would require more biomass fuel to produce two MW of power, resulting in greater emissions from the plant stack and chipping of biomass in the forests. As with the project, operational emissions would occur in the jurisdictions of various air districts. The worst-case level of daily emissions that could occur in the jurisdiction of EDCAPCD would be emissions from chipping (up to 49.6 lbs/day), biomass hauling (a portion of 11.1 lbs/day), and employee commute trips (a portion of 0.3 lb/day); however, the combined emissions level in EDCAPCD would not exceed EDCAPCD's applicable threshold of 82 lbs/day. As with the project, NO_X emissions generated by chipping and truck hauling in NSAQMD's jurisdiction could potentially exceed NSAQMD's Level A tier of 24 lbs/day for NO_X .

Depending on the geographical distribution of chipping activity during the summer period when biomass is recovered from forests in the region and because of the greater volumes of biomass required, the sum of maximum daily operational emissions could exceed the thresholds of significance for NO_X established by PCAPCD. This would be a new significant impact.

1	Table 18-3 Summary of Operational Emissions of Criteria Air Pollutants and Precursors under the Direct Combustion Technology Alternative								
		Maximum Daily Operational Emissions (lbs/day) ¹			Juriso	dictions whe	re Pollutants	would be Em	nitted
Emissions Source	NO _x	ROG	PM ₁₀	PM _{2.5}	PCAPCD portion of MCAB	PCAPCD portion of LTAB	EDCAQMD portion of LTAB	NSAQMD portion of MCAB	Nevada portion of LTAB
Biomass Combustion by Power Plant ²	53.8	5.8	13.4	13.4	all	none	None	none	none
Natural Gas Combustion for Start-Ups	0.4	<0.1	<0.1	<0.1	all	none	None	none	none
Chipping Biomass	49.6	4.7	1.6	1.6	some	some	Some	some	some
Truck Activity at the Plant	0.8	<0.1	<0.1	<0.1	all	none	None	none	none
Loader Activity at the Plant	8.8	0.9	0.3	0.3	all	none	None	none	none
Employee Commute Trips	0.3	0.3	<0.1	<0.1	some	some	Some	some	some
Trucks Hauling Biomass	11.1	0.3	15.8	1.7	some	some	Some	some	none
Trucks Hauling Biochar	0.9	<0.1	<0.1	<0.1	some	some	None	some	none
Total	125.7	12.1	31.2	17.1	some	some	Some	some	some
PCAPCD Thresholds	82	82	82	none			_		
EDCAQMD Thresholds	82	82	none	none					
NSAQMD's Level A Tier	24	24	79	none			_		

Notes:

ROG = reactive organic gases NO_x = oxides of nitrogen

 PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less $PM_{2.5}$ = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less

lbs/day = pounds per day

PCAPCD = Placer County Air Pollution Control District
EDCAQMD = El Dorado County Air Quality Management District
NSAQMD = Northern Sierra Air Quality Management District

MCAB = Mountain Counties Air Basin LTAB = Lake Tahoe Air Basin

Source: Modeling Conducted by Ascent Environmental 2012.

The number of additional truck trips using area intersections would be slightly higher because the direct combustion technology would require more biomass fuel than the gasification technology. The difference would not be significant, however. Thus, the potential for increased localized CO concentrations at area intersections would be the approximately same.

The types of off-road diesel equipment used during construction, as well as the level of associated diesel PM emissions and associated levels of health risk, would be the same as for the project.

The HRA prepared for the project also estimated the increases in health risk from plant operations for both gasification technology and direct combustion technology and, using a conservative methodology, concluded that the incremental increases in health risk would be approximately the same (Air Permitting Specialists 2011, p.6).

The types and mass of TAC emissions generated by the biomass plant would be the same as the project. The associated increases in health risk at nearby sensitive receptors would likely be lower than for the project because the plant would be more distant from, and downwind of, the nearest residences. For these same

Modeled values represent maximum daily emissions that would occur on a worst-case day. See Appendix D for detail on model inputs, assumptions, and project specific modeling parameters.

² Using direct combustion technology, the biomass plant would also combust natural gas during plant start-ups. On these days, a full-load of biomass fuel would not be combusted and, therefore, the maximum daily operational emissions of the plant would not occur on start-up days.

reasons, the potential for the plant to result in odor complaints would be the same as for the project. Overall, while most issues would result in the same or lesser impacts compared to the project, this alternative would result in a new significant impact associated with operational emissions that would not occur under the project. Therefore, this alternative would have greater air quality impacts (Greater).

GREENHOUSE GAS EMISSIONS (GHG) AND CLIMATE CHANGE

Under this alternative, the biomass plant would employ direct combustion technology rather than gasification technology. With regards to GHG emissions, the primary difference between this alternative and the project is that more biomass fuel would be needed for direct combustion technology (a maximum of 20,000 bone dry tons per year [bdt/year] vs. a maximum of 17,000 bdt with gasification). This would result in greater emissions from the plant's stack, a greater volume biomass fuel being chipped and hauled from the forests to the plant, and more workers performing the chipping and hauling during the summer season. A greater volume of water would also be consumed in direct combustion. Natural gas is also combusted during plant start-ups, resulting in additional GHG emissions. The level of GHG emissions avoided under this alternative would also be greater because less forest thinning slash and hazardous fuels debris would be piled and burned in the forests.

Table 18-4 summarizes the stationary, support, and avoided emissions associated with the biomass power plant if direct combustion technology is used. The methodologies used for estimating the GHG emissions from all of these activities are summarized in Table 10-2. Refer to Appendix D for a detailed summary of the modeling assumptions, inputs, and outputs.

Table 18-4 Annual GHG Emissions of the Direct Combustion Technology Alternative ¹				
Category and Source	CO ₂ e (MT/year)			
Construction Emissions, Amortized across the project life (30 years) ²	5			
Operational Emissions				
Biomass Combustion by Power Plant	31,207			
Support Emissions				
Natural Gas Combustion by Power Plant	1			
Chipping Biomass	354			
Trucks Hauling Biomass to Plant	99			
Truck Activity at the Plant (Idling)	2			
Loader at the Plant and Fuel Yard	197			
Employee Trips	44			
Trucks Hauling Biochar/Ash	10			
Electricity Consumption from the Grid	1,134			
Water Consumption	355			
Wastewater Treatment	250			
Total Operational and Support Emissions	33,654			
Avoided Emissions				
Open Burning of Forest Thinning Slash and Hazardous Fuels	(29,245)			
Net Increase in Operational Emissions	4,409			
CO-o = parhan diavida aquivalent	·			

CO2e = carbon dioxide equivalent

MT/year = metric tons per year

Methodologies for estimating emissions from each activity are summarized in Table 11-2. Refer to Appendix D for a detailed summary of the modeling assumptions, inputs, and outputs. Values may not sum exactly to total due to rounding.

Construction activity would generate approximately 150 MT of CO₂ emissions during the entire construction period. The value of 150 MT is amortized across the projected life of the plant, 30 years, which results in rate of 5 MT of CO₂ per year.

The emissions estimates shown in Table 18-4 indicate that operation of the biomass plant with direct combustion technology would result in a net increase of 4,409 MT CO₂e/year, which is greater than the net increase of 3,809 MT CO₂e/year estimated for the proposed project. As with the project, the plant would have a capacity of 2 MW and would operate approximately 365 days per year. Thus, using direct combustion, the plant's GHG-efficiency would be 0.25 MT CO₂e/MW-hr. While the plant using direct combustion would be less GHG-efficient than the proposed project using gasification (i.e., 0.22 MT CO₂e/MW-hr), the plant using direct combustion would be more efficient than the projected statewide "fleet" of power plants in the year 2020 necessary to achieve AB 32 goals. For this reason, the direct combustion alternative would be consistent with the goals of the Renewable Electricity Standard, ARB's Scoping Plan, and the reduction target of AB 32. In addition, the use of forest biomass by the project would also be consistent with the recommended actions regarding sustainable forests in ARB's Scoping Plan, specifically the recommendation to maintain the current sequestration in the forests through sustainable management practices, potentially including reducing the risk of catastrophic wildfire (ARB 2008). Thus, the direct combustion alternative would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs in the electricity sector and it would not generate levels of GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, the contribution of GHGs by the direct combustion alternative would not be cumulatively considerable. (Similar)

Noise

Under this alternative, construction-related activities would be similar to the project because the same types of construction equipment would be used on the same project site. Therefore, noise and ground vibration associated with construction activities would be similar to the project.

The Direct Combustion Technology Alternative would include additional mechanical, noise-generating equipment, in comparison to the project. This equipment includes additional exhaust fans, a 300-horsepower air intake fan, and a dust collector with cooling fans and valves. This equipment would result in a slight increase in operational noise in comparison to the project (i.e., 1 dB). However, for the same reasons discussed under the project, existing buildings in the direct noise path of the proposed facility would provide adequate attenuation resulting in noise levels of 53 dB L_{eq} during the day and 44 dB L_{eq} during the night at the nearby sensitive receptor. Therefore, similar to the project, impacts from operational noise would be less than significant.

Under this alternative, 1-2 more trips related to fuel delivery would occur. These additional trips would result in a slight, yet unnoticeable increase in traffic-related noise on Cabin Creek Road (i.e. 1 dB net increase). Similar to the project, other affected roadways would not result in an increase in traffic-related noise. Overall operational noise impacts would be similar to the project under this alternative. (Similar)

GEOLOGY, SOILS, AND SEISMICITY

Because the structures would be similar to those required for the project, the use of direct combustion technology would result in similar potential for impacts associated with seismic conditions. (Similar)

HYDROLOGY AND WATER QUALITY

Because the overall disturbance area would be the same as the project (i.e., 3.7 acres), the use of direct combustion technology would result in similar potential for construction-related impacts associated with increased sediment in project site runoff and would require similar mitigation to the project for reducing impacts to surface water runoff. In addition, this alternative would result in the same area of impervious surfaces (i.e., approximately one acre); therefore, groundwater recharge impacts of this alternative would be the same.

In terms of groundwater supply, this alternative would have greater demands for water compared to the project (approximately 26 afy). Implementation of the direct combustion technology would result in a 40% increase in water demand at the project site and would likely require the construction of new well to meet increased demands. As described for the project, limited information is known about the underlying groundwater basin because there are few water users in the area. While the existing onsite well does not have a history of running dry, it is unknown whether additional pumping required by the alternative would result in any significant groundwater depletion impacts. While the County would issue a well permit that would ensure there are adequate groundwater supplies to meet the alternative's demands based on well drilling and pumping tests, under peak demand conditions and because limited information is known about the underlying groundwater basin, it may be possible that this alternative could result in one or more of the wells running dry. This would be a new potentially significant impact of this alternative. Mitigation may be available to reduce this impact through the implementation of contingency measures that would identify an alternative water supply sources in the event the well runs dry. Overall, hydrology and water quality impacts under this alternative would be greater. (Greater)

PUBLIC SERVICES AND UTILITIES

Impacts associated with demands for public services and utilities resulting from this alternative would be similar to those that would occur under the project. The alternative would be constructed at the same location as the project (i.e., at the Eastern Regional MRF and Transfer Station); therefore, the need for fire protection and police services and demands for electricity and natural gas would be similar. Solid waste disposal requirements would be similar to the project, with direct combustion technology producing between 8 and 19 tons per week of ash. Wastewater treatment demands would be lower than the project because the direct combustion technology is a consumptive process. However, the same conveyance facilities would still be required to connect the site to existing wastewater conveyance facilities. Overall, this alternative would result in similar public services and utilities impacts. (Similar)

POPULATION AND HOUSING

Impacts associated with population and housing resulting from this alternative would be similar to those that would occur under the project. The alternative would be constructed at the same location as the project (i.e., at the Eastern Regional MRF and Transfer Station) and a similar number of employees would be required. Further, the temporary caretaker's residence on the site would be removed under this alternative. Overall, impacts would be similar to the project. (Similar)

HAZARDOUS MATERIALS AND HAZARDS

Impacts associated with exposure to hazardous materials and hazards, including wildfire resulting from this alternative would be similar to those that would occur under the project. This alternative would be constructed at the same location as the project (i.e., at the Eastern Regional MRF and Transfer Station) and would use similar types of hazardous materials as the proposed gasification technology. (Similar)

CONCLUSION

The Direct Combustion Technology Alternative would result in similar environmental impacts as the project for most environmental resources. However, this alternative would result in greater environmental impacts in the areas of criteria air pollutant emissions, GHG emissions, and potential groundwater impacts. While this alternative would meet all of the project's objectives especially those related to improving air quality and GHG emissions associated with open burning of woody biomass, it would result in three new potentially significant impacts that would not occur under the project. Overall, this alternative would not be environmentally superior to the project.

18.2.4 ALTERNATIVE SITE WITH GASIFICATION TECHNOLOGY ALTERNATIVE

DESCRIPTION

This alternative includes the development of a two MW biomass energy facility at an alternative location within the boundaries of the Eastern Regional MRF and Transfer Station site that would distance the plant from existing residences and would eliminate the need to remove an existing temporary caretaker's residence.

The alternative site is entirely within APN 080-070-017, with the exception of the redundant well, which would be located in the same area as proposed by the project. Exhibit 18-2 illustrates the approximate limits of the alternative site and the conceptual location of the power generation building, covered storage facility, and materials storage area. The alternative site is located nearly 0.5 mile northwest of the project site and adjacent to the haul road that provides access to site operations (wood and inert materials processing and storage areas [Exhibit 3-14]) in the northern part of the site.

Access to the site would be via Cabin Creek Road, and vehicles traveling to and from the site would be required to pass through the MRF and Transfer Station scale house. The alternative would be construction on about the same area as the project (i.e., 3.7 acres); however, the alternative site is located closer (about 300 feet) to former landfill operations, which occurred east of the haul road.

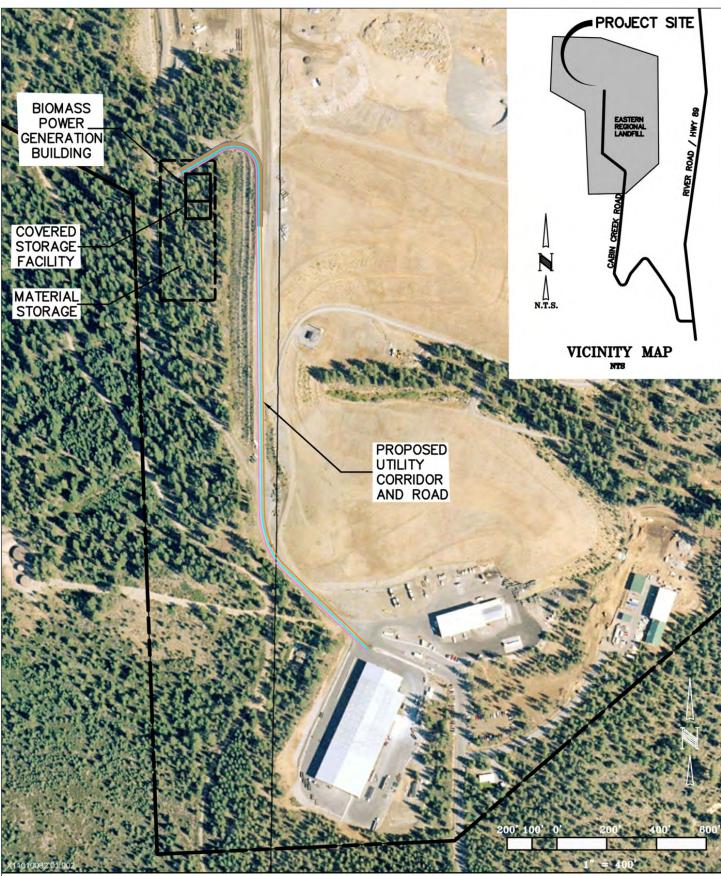
As with the project, this alternative would meet all of the basic project objectives and would require approval of a Conditional Use Permit by Placer County. Facility ownership and employment and many of the site improvements would be the same as the project.

The onsite equipment, water and wastewater demands, and operational characteristics (e.g., hours, fuel sourcing, processing and handling, storage, and recordkeeping) for this alternative would be the same as the project. Improvements at the alternative site would include a paved access road extending from the haul road to the site, and improvements to the haul road (e.g., paving a portion of roadway that is currently unpaved). This alternative would include longer connections (i.e., for water, wastewater, and electricity) than the project. The utility lines would be placed underground and would be approximately 2,000 linear feet. Given that the alternative site is located uphill (an elevation approximately 50 feet higher) from the existing MRF and Transfer Station facilities that receive water from a gravity-fed water line extending from the water storage tanks, new pumping facilities would be required to bring water to the alternative site for use.

IMPACTS OF THE ALTERNATIVE SITE WITH GASIFICATION TECHNOLOGY ALTERNATIVE

LAND USE AND FORESTRY RESOURCES

Impacts associated with land use consistency and forest conversion resulting from this alternative would be similar to those that would occur under the project. This alternative would include the same components as the project, placed on a Placer County-owned parcel east of the closed landfill site. The alternative site would be approximately 3.5 acres (similar to the project), but contains a greater number of trees (approximately 94 trees). While the alternative site supports a slightly greater number of trees, similar to the project this would not be a significant impact because the site is small and contains limited forestry resources, substantial forestry resources (thousands of acres) are and would continue to be available surrounding the site and the project would not directly or indirectly affect the use or management of these resources, and the project would continue the purpose and intent of the County's designation for the site to provide facilities that are important to maintain the County's health and welfare. Forestry impacts under this alternative would be less than significant. Overall, this alternative would result in similar land use and forestry resources impacts. (Similar)



Source: Placer County 2012

Exhibit 18-2

Location and Layout of the Northern Site with Gasification Technology Alternative



BIOLOGICAL RESOURCES

Impacts to biological resources resulting from this alternative would be substantially the same as those that would occur under the project because this alternative would include the same components as the project, placed approximately 2,200 feet northwest of the project site, but within the study area (i.e., the Eastern Regional MRF and Transfer Station property). The alternative site provides similar habitat value as the project site, and does not contain any sensitive habitats, including wetlands. This alternative would require the extension of electrical and sewer lines approximately 2,200 feet. While these extensions would be greater than what would be required under this project, there are no sensitive resources within these utility alignments. Therefore, construction activities as a whole would result in similar potential for disturbance of nesting birds. Operational impacts would result in the same use of forest-sourced woody biomass and similar operational noise levels. Tree removal associated with this alternative would be more extensive than the project because this alternative would result in the removal of approximately three acres of Jeffrey pine forest (approximately 94 trees), compared with approximately 1.87 acres (approximately 44 trees) that would be removed under the project. Nonetheless, with implementation of Mitigation Measures 5-1 and 5-2 a and b, biological impacts resulting from this alternative would be less than significant. (Similar)

CULTURAL RESOURCES

Impacts to cultural resources resulting from this alternative would be substantially the same as those that would occur under the project. This alternative would include the same components as the project, placed in a different location within the study area (i.e., Eastern Regional MRF and Transfer Station property), approximately 2,200 feet northwest of the project site. Because of its close proximity, this site has a similar level of archaeological sensitivity as the proposed site. No archaeological sites have been recorded on the alternative location site. While previously undiscovered resources may be presents, mitigation recommended for the project (Mitigation Measures 6-1 through 6-4) would be implemented with this alternative, which would reduce potential impacts to a less-than-significant level. Overall, impacts would be similar to the project. (Similar)

VISUAL RESOURCES

Impacts to visual resources resulting from this alternative would be substantially the same as those that would occur under the project. This alternative would include the same components as the project, placed in a slightly different location within the study area, approximately 2,200 feet northwest of the project site. Viewer sensitivity would be the same as described for the project and overall visual impacts would be less than significant. (Similar)

TRAFFIC AND TRANSPORTATION

This alternative would result in the same number of construction and operational trips as the project. Further, the same access points (i.e., Cabin Creek Road) would be used. As was described for the project, this alternative would not result in any significant traffic and transportation impacts. (Similar)

AIR QUALITY

This alternative would result in the same types of construction- and operational-related activities that would occur under the project because the same facility would be constructed in a slightly different location within the study area. Thus, the emissions estimates provided in Table 9-6 and Table 9-7 would be the same if the biomass plant were located at the alternative site. (Similar)

While the types and mass of TAC emissions generated during operation of the biomass plant would be the same as the project, the associated increases in health risk at nearby sensitive receptors would likely be lower than for

the project because the plant would be more distant from, and downwind of, the nearest residences. Overall, air quality impacts associated with this alternative would be the same or slightly less than those that occur under the project. (Similar, slightly less)

GREENHOUSE GAS EMISSIONS (GHG) AND CLIMATE CHANGE

Implementation of this alternative would result in the same types of construction- and operational-related activities as would occur under the project. Thus, the emissions estimates provided in Table 10-3 would be the same for this alternative. Moreover, the net increase in GHG emissions would be approximately 3,976 MT $CO_2e/year$ and the plant's GHG-efficiency would be 0.25 MT CO_2e/MW -hr, which is less than the efficiency needed by the statewide "fleet" of power plants to be consistent with the goals of the Renewable Portfolio Standard, ARB's Scoping Plan, and the reduction target of AB 32. (Similar)

Noise

Under this alternative, construction-related activities would be similar to the project because the same types of construction equipment would be used. Construction activities would occur during daytime hours and would, therefore, be exempt from Placer County Noise Ordinance provisions.

Operational-related noise sources would be similar to the project; however, due to the increased distance from the nearest sensitive receptor, project-generated operational noise sources would further attenuate from distance alone at the nearest onsite sensitive receptor to noise levels of 43 dB L_{eq} during the day and 38 dB L_{eq} during the night. Therefore, estimated project-generated noise levels would be lower than under the project. However, no significant impacts were identified for the project. This alternative would result in the same trips related to fuel delivery, biochar hauling, and employee commute as the project and, therefore, impacts from traffic-related increases in noise would be similar to the project. Overall, the noise impacts of the project would be similar. (Similar)

GEOLOGY, SOILS, AND SEISMICITY

Because the alternative site would be located near the project site, implementation of this alternative would result in similar potential for impacts associated with unstable soil and seismic conditions. Mitigation recommended for the project would reduce these impacts to a less-than-significant level. Overall, geology, soils, and seismicity impacts would be similar. (Similar)

HYDROLOGY AND WATER QUALITY

Because the overall disturbance area would be the similar to the project (i.e., 3.5 acres), this alternative would result in similar potential for construction-related impacts associated with increased sediment in project site runoff and would require similar mitigation to the project for reducing impacts to surface water runoff. In addition, this alternative would result in the same area of impervious surfaces (i.e., approximately one acre); therefore, groundwater recharge impacts of this alternative would be the same.

With regards to water supply, the water demands associated with this alternative would be the same as the project. However, because this site is located at a higher elevation than the Eastern Regional MRF and Transfer station site, a new pump station may be required to deliver water to the alternative site. It is not expected that this pump station would result in any new significant impacts. Similar to the project, this alternative would include parking areas, access roads, and involve industrial activities which would result in similar long-term water quality impacts as the project. Mitigation recommended for the project would reduce these impacts to a less-than-significant level. Overall, this alternative's hydrology and water quality impacts would be similar to the project. (Similar)

PUBLIC SERVICES AND UTILITIES

Impacts associated with demands for public services and utilities resulting from this alternative would be same to those that would occur with the project. The need for fire protection and police services, and the demands for wastewater treatment, electricity, and natural gas would not change. Construction-related impacts associated with extension of utility lines (electrical and wastewater) to the alternative site are discussed above under Biological Resources. (Similar)

POPULATION AND HOUSING

This alternative would include the same components as the project, placed in a different location within the study area. The same number of employees would be required for construction and operation of the facility. However, this alternative would not result in the removal of the onsite temporary caretaker's residence. Therefore, population and housing impacts would be slightly less under this alternative. (Less)

HAZARDOUS MATERIALS AND HAZARDS

Impacts associated with exposure to hazardous materials and hazards resulting from this alternative would be substantially the same as those that would occur under the project. The same type and amounts of hazardous materials would be used and transported to the site in conjunction with construction and operation of the facility. (Similar)

CONCLUSION

The Alternative Site with Gasification Technology Alternative would result in similar environmental impacts as the project for most environmental resources. Because this alternative is shifted slightly within the study area (i.e., Eastern Regional MRF and Transfer Station site), this alternative would not disturb existing uses located on the proposed project site and would reduce the concentrations of TAC exposure to nearby residences. However, these impacts were determined to be less-than-significant for the project; therefore, this alternative would not reduce or eliminate any of the projects significant effects. Further, this alternative would require greater construction activities associated with utility line extensions and a new water pump, and a greater number of trees would need to be removed from the site compared to the project. Nonetheless, this alternative would meet all of the project's objectives and would reduce some environmental impacts. Therefore, this alternative would be environmentally superior to the project.

SUMMARY OF THE COMPARATIVE EFFECTS OF THE 18.3 **ALTERNATIVES**

Table 18-5 summarizes the environmental analysis provided above for the project alternatives. The environmental impacts of the project are addressed in detail throughout Chapters 4 through 16 of this Draft SEIR.

Table 18-5 Comparison of Environmental Impacts of Alternatives in Relation to the Project					
Environmental Topic	Project	No Project Alternative	Direct Combustion Technology Alternative	Alternative Site with Gasification Technology Alternative	
Land Use and Forestry Resources	LTS	Less	Similar	Similar	
Biological Resources	LTSM	Less	Similar	Similar	
Cultural Resources	LTSM	Less	Similar	Similar	
Visual Resources	LTSM	Less	Similar	Similar	
Traffic and Transportation	LTS	Less	Similar	Similar	
Air Quality	LTS	Greater	Greater	Similar, slightly less	
GHG and Climate Change	LTS	Greater	Greater	Similar	
Noise	LTS	Less	Similar	Similar	
Geology, Soils, and Seismicity	LTSM	Less	Similar	Similar	
Hydrology and Water Quality	LTSM	Less	Greater	Similar	
Public Services and Utilities	LTS	Less	Similar	Similar	
Population and Housing	LTS	Less	Similar	Less	
Hazards and Hazardous Materials	LTSM	Less	Similar	Similar	
Impact Status: LTS = Less Than Significant Impact LTSM = LTS with Mitigation	Less = Impact reduced when compared to the project Greater = Impact increased when compared to the project Similar = Impact equivalent to the project				

18.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM **DETAILED EVALUATION**

State CEQA Guidelines Section 15126.6(c) provides the following guidance in selecting a range of reasonable alternatives for the project. The range of potential alternatives for the project shall include those that could feasibly accomplish most of the basic objectives of the project, and could avoid or substantially lessen one or more of the significant effects. The EIR should also identify any alternatives that were considered by the lead agency, but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination.

The following describes other alternatives considered by Placer County but dismissed from further evaluation in this Draft EIR and a brief description of the reasons for their rejection.

18.4.1 FIVE MW WOOD-TO-ENERGY BIOMASS PLANT AT THE EASTERN REGIONAL MRF AND TRANSFER STATION SITE

The County considered development of a five MW wood-to-energy plant at the Eastern Regional MRF and Transfer Station (project site). This alternative would require the County to broaden the types of materials accepted for use in the power generation process. Specifically, the County would likely need to rely on clean urban wood (including clean construction and demolition wood) from the Reno/Sparks Area to provide the necessary fuel for the facility. This alternative would also likely require improvements (replacement and upgrade) to the existing offsite distribution line that would bring electricity generated at the site to the Calpeco transmission grid. Expansion of the fuel sources and upgrades to the distribution line would result in greater environmental impacts compared to the project, and would not reduce any of the project's significant environmental impacts. For these reasons, this alternative was dismissed from further evaluation.

18.4.2 ALTERNATIVES SITES IN PLACER COUNTY PORTION OF THE LAKE TAHOE BASIN

KINGS BEACH SITE - NORTH END OF DEER STREET

The County initially considered a site on the portion of a Calpeco-owned parcel at the end of Deer Street, north of Speckled Avenue, in Kings Beach. The County evaluated the 1.3-acre portion of the parcel that falls within the Kings Beach Industrial Community Plan area, where power generation is a permissible use. At this site, Calpeco would have been a private partner and the site had the advantage of being adjacent to the electrical grid, the Kings Beach diesel power generation site, and Kings Beach Switching Station. The site was easily accessed from SR 267 to the west of the site via Speckled Avenue, which is a designated truck route. The site was well screened from public areas and was not visible from any protected viewpoint (i.e., public highway, recreation areas, or Lake Tahoe). The site was located on high capability lands (land capability district [LCD] 5).

Based on these preliminary advantages of the site, Placer County commissioned structural and civil engineering studies in support of a TRPA Project Review application and to support related environmental review. TRPA assigned staff to conduct the project review and hired an outside consultant to review the project application and provide environmental review oversight. A soils/hydrologic study was commissioned to determine the depth to groundwater at the site. Photorealistic simulations of the proposed project buildings and storage area were prepared to support the environmental review. Engineering studies were commissioned by the County to assess the appropriate vehicle sizing to navigate access to and operations at the site, and to eliminate the need for any offsite roadway improvements. A health risk assessment for the proposed project was also commissioned by Placer County.

In July 2010, Placer County initiated environmental review for a two-MW biomass facility at the Kings Beach site with release of a Notice of Preparation for a joint environmental document, which would be both an environmental impact statement (EIS) prepared in accordance with the TRPA Tahoe Regional Planning Compact, Goals and Policies, Code of Ordinances, and Rules of Procedure and an EIR with Placer County as the CEQA lead agency. Placer County hosted internal Environmental Review Committee meeting with department heads to preliminary review the project and to identify concerns, and two public scoping meetings. Substantial progress was made in completing an administrative Draft EIR/EIS for the proposed project at the Kings Beach site. The analysis that was completed for the administrative Draft EIR/EIS was comprehensive. Specifically, field surveys for biological and cultural resources were conducted. A standalone heritage resources inventory and evaluation report, that included Washoe tribal consultation, was completed for the site. A detailed emissions inventory and evaluation was conducted to determine that a plant at the site could meet TRPA's stringent stationary source standards with appropriate best management practices.

In late July 2011, TRPA's Executive Director, informed Placer County that the site was not suitable for a biomass plant and should be dismissed from further consideration based on the following: public opposition to locating the site near existing residences; potential noise impacts, which could not be mitigated to meet the noise standards of the applicable Plan Area Statement (PAS) for the surrounding conservation lands [the noise standards of the adjacent residential area could be met] and TRPA would not consider a PAS amendment to revise the noise standards to a level that could be achieved; long-term daily increases in truck traffic and impacts to the nearby residential community; and the resultant incompatibility of the site with the surroundings. For these reasons, the Placer County Board of Supervisors directed staff to stop any further evaluation of that site and to move forward with environmental review for the alternative site at Cabin Creek. At this stage, and following a year's progress on the environmental review, the administrative Draft EIR/EIS was approximately 80 percent complete before environmental review for this site ceased.

TAHOE CITY SITE - BURTON CREEK DRIVE / 2501 NORTH LAKE TAHOE BOULEVARD (ADJACENT TO COUNTY GOVERNMENT OFFICES)

The County considered a site adjacent to the existing County government offices off of Burton Creek Drive. Because power generation is not a permissible use, locating the plant at this site would require a plan area statement (PAS) amendment. Alternative sites that would require an amendment to a PAS or community plan were dismissed given the January 2009 decision by the TRPA Governing Board to stop accepting new major project applications that require Regional Plan amendments (including PAS or community plan amendments) until adoption of the updated Regional Plan (currently planned for the end of 2012).

The Burton Creek site has also been the subject of litigation over noise levels that set a community noise equivalent level (CNEL) standard of 55 at the property boundary. Existing condominiums are located adjacent to the site to the east. Truck traffic would need to access the site from SR 28. The site is the location of a proposed future justice facility to replace the County's existing facility. The site is constrained by steep slopes and limited land coverage per TRPA regulations. The County Sherriff's Department has indicated that construction of a biomass facility and the associated truck traffic would detrimentally affect future plans for the site. For these reasons, this site was dismissed from further evaluation.

TAHOE CITY SITE - WILLIAMSON PROPERTY / 490 RIVER ROAD

The County considered the feasibility of siting a biomass plant on the upper bench of the Williamson Property at 490 River Road in Tahoe City, which is an industrial zoned property. The site has the advantage of being located adjacent to Calpeco overhead transmission lines. The site is located within the Tahoe City Community Plan. Because power generation is not a permissible use, locating the plant at this site would require a community plan amendment. Access to the site would be off of Fairway Drive. The access road to the site from Fairway Drive is narrow and would require widening or shared use of the parking lot at Tahoe City PUD for truck access to the site. For these reasons, this site was dismissed from further evaluation.

INDUSTRIAL ZONED PARCELS AT THE END OF NATIONAL AVENUE IN TAHOE VISTA

The County evaluated the availability and suitability of industrial-zoned sites at the end of National Avenue in Tahoe Vista. These sites were considered but dismissed from further evaluation because power generation is not a permissible use at any of the sites that were considered and a PAS amendment would be required. These sites are also located in close proximity to recreation areas and the North Tahoe Regional Park, which make these sites less compatible with surrounding uses than the project site.

OTHER PARCELS IN THE LAKE TAHOE BASIN WITHIN PLACER COUNTY WHERE POWER GENERATION IS A PERMISSIBLE USE

Placer County researched all parcels that are 1.5 acres or larger within the Placer County portion of the Lake Tahoe Basin where power generating facilities are a permissible use in the applicable PAS or Community Plan.

In addition to the previously proposed site in Kings Beach at the end of Deer Street, two parcels within the Kings Beach Industrial Community Plan met these criteria. One of the sites currently includes an existing warehouse building, and both parcels are located in close proximity to existing residential areas. Neither site provided a clear environmental benefit over the previously proposed site in Kings Beach.

The McKinney Lakes Conversation PAS is the only other PAS where power generation is a permissible use within the Placer County portion of the Lake Tahoe Basin. The search yielded 10 parcels that met the search criteria, all located on National Forest System (NFS) land managed by the USFS, LTBMU. The land use classification for the McKinney Lake Conservation PAS is conservation, and the PAS is generally managed for recreation. Given that the proposed biomass plant would not be consistent with these planning objectives, these sites were rejected from further consideration.

18.4.3 USE OF CURTAIN BURNERS

TRPA, as a partner on the joint environmental document, requested that the County consider an evaluation of a "no build" alternative that included the use of curtain burners or air curtain destructors (ACDs) at the site of biomass removal to control emissions from burning forest-sourced biomass materials. This is a practice used in the San Bernardino forest.

Self-contained ACDs are portable, skid mounted, refractory-lined rectangular chambers with an open top. Biomass waste is piled into the chamber from the top and ignited. An "air curtain" is directed across the top of the open-top container at a slight downward angle to assist with the mixing and circulation of the combustion products and to trap large particles and smoke. Combustion efficiency is improved and air pollutant emissions of unburned soot and solid particulate matter and products of incomplete combustion are limited by the "air curtain".

Placer County Air Pollution Control District (PCAPCD) conducted a comparison study of ACDs with other alternative biomass waste disposal options (PCAPCD 2010). In that study it was determined that compared with open pile burning, the use of ACDs reduces CO, NMOC, and PM emissions by 75 to 90 percent. However, nitrogen oxides (NO_x) emissions from ACDs are almost twice as high as that from open pile burning. Carbon dioxide equivalent (CO_2e) emissions from ACDs is a little bit less than open pile burning due to a reduction in methane emissions from ACDs. Although total particulate from ACDs are lower, it is projected the amount of very small diameter PM (less than 2.5 microns) emissions from ACDs may likely be higher compared to that from open pile burning. With biomass waste to energy conversion, particulate matter, carbon monoxide, and non-methane organic compounds emissions are 80 to 90 percent lower than ACDs and NO_x emissions from biomass to energy are 95 percent lower than ACDs (PCAPCD 2010).

This alternative was dismissed from further evaluation for a number of reasons; use of ADCs would not meet any of the objectives of the project, including objectives to improve regional air quality and reduce greenhouse gas emissions and objectives to contribute to California's renewable energy production goals. Additionally, this alternative was dismissed from further evaluation, because this reflects a scenario in which another agency (e.g., USFS) would purchase and use curtain burners at in-field locations to burn forest-sourced material in a controlled system at high temperatures to minimize emissions. This alternative was dismissed because it is beyond the regulatory control of Placer County to implement and USFS-LTBMU staff (Fournier 2010) indicated

that they would not consider the use of curtain burners because they are not practical from a management perspective. This technology was rejected from further consideration.

18.4.4 REPOWER EXISTING BIOMASS PLANTS (LOYALTON/CARSON CITY)

During initial project scoping, several community commenters recommended that the County consider repowering the Loyalton 20 MW biomass facility co-located at Sierra Pacific Industries' lumber facility in Loyalton, California (Sierra County) or the 1.2 MW biomass facility at the Northern Nevada Correction Center in Carson City, Nevada. These alternatives were dismissed because they are beyond the jurisdictional limits and regulatory authority of Placer County. Further, these alternatives would not meet any of the project's objectives related to furthering Placer County's goals for fuel reduction and furthering its biomass policies and objectives. These facilities were closed for economic reasons that are substantially different than the business plan operations of the proposed Cabin Creek facility as well.

18.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project Alternative would avoid the adverse environmental impacts at and adjacent to the project site associated with project construction and operations; however, it could result in a new potentially significant impacts associated with criteria air pollutant emissions from open burning of woody biomass material. Therefore, it would result in environmental tradeoffs compared to the project and would not be considered environmentally superior to the project. The Alternative Site with Gasification Technology Alternative would be considered the environmentally superior alternative because it would result in slightly less TAC impacts because of the greater distance between the plant and nearby residences and this alternative would not disturb existing land uses on the proposed project site. All other impacts under this alternative would be similar. The Direct Combustion Technology Alternative would not be environmentally superior to the project because it would result in three new potentially significant impacts (i.e., criteria air pollutants, GHG emissions, and groundwater) that would not occur under the project.

18.6 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Adoption and implementation of the proposed project would only result in one potentially significant and unavoidable impact associated with cumulative toxic air contaminant (TAC) concentrations. While the project would not result in significant impacts related to TAC concentrations in and of itself, it is possible that the levels of health risk exposure from the proposed project, in combination with health risk exposure of other nearby TAC-emitting facilities, could exceed acceptable levels which would be considered a significant cumulative impact. No additional feasible mitigation would be available to reduce this impact or the project's contribution to this impact. Therefore, the project's contribution would be cumulatively considerable.

All other environmental impacts of the project would be less than significant or less than significant with mitigation.

18.7 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

The State CEQA Guidelines require a discussion of the significant irreversible environmental changes that would occur should the project be implemented. A discussion of these changes as they relate to the proposed project is provided below.

An example of significant irreversible environmental change is the irreversible and irretrievable commitment of resources (i.e. the permanent loss of resources for future or alternative purposes). Irreversible and irretrievable resources are those that cannot be recovered or recycled or those that are consumed or reduced to unrecoverable forms. The project would result in the irreversible and irretrievable commitment of energy and material resources during project construction, operation, and maintenance, including the following:

- construction materials, including such resources as rocks, wood, concrete, glass, roof shingles, and steel;
- ▲ land area committed to new project facilities;
- conversion of forest land to industrial land uses;
- energy expended in the form of electricity, gasoline, diesel fuel, and oil for equipment and transportation vehicles that would be needed for project construction and operation.

The use of these nonrenewable resources is expected to account for a minimal portion of the region's resources and would not affect the availability of these resources for other needs within the region. Construction activities would not result in inefficient use of energy or natural resources. Construction contractors selected would use best available engineering techniques, construction and design practices, and equipment operating procedures. Further, on an operational basis, the project would be a net energy producer and would have beneficial effects with respect to implementing renewable energy projects throughout the State. Therefore, long-term operational energy and natural resource consumption is expected to be less than significant.

18.8 GROWTH-INDUCING IMPACT OF THE PROPOSED PROJECT

18.8.1 STATE CEQA GUIDELINES

State CEQA Guidelines Section 2100(b)(5) specifies that growth-inducing impacts of a project must be addressed in an EIR. Section 15126(d) states that a proposed project is growth-inducing if it could "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Included in the definition are projects that would remove obstacles to population growth. Examples of growth-inducing actions include developing water, wastewater, fire, or other types of services in previously unserved areas; extending transportation routes into previously undeveloped areas; and establishing major new employment opportunities. The following is a summary of the direct and indirect growth-inducing impacts that could result with implementation of the Master Reuse Plan.

18.8.2 GROWTH-INDUCING IMPACTS OF THE PROJECT

Project construction and operation could foster some limited short-term economic growth associated with construction employment opportunities and with new permanent employment opportunities (up to 17 positions). Although the project would increase wastewater flows and water demands, adequate wastewater treatment capacity is available and the existing well and underlying groundwater basin has adequate capacity to

meet the project's needs. The project could foster some economic and population growth associated with new employment opportunities at the facility. However, this growth would not substantially affect the ability of public services providers to serve their existing customers, nor would it require the construction of new facilities to serve the project. Because of the limited, long-term employment opportunities associated with the project and adequate public facilities and services are available to serve the project, the project is not anticipated to result in any direct or indirect growth-inducing impacts.

18.9 CUMULATIVE IMPACTS

Section 15130(a) of the CEQA Guidelines requires a discussion of the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Cumulatively considerable, as defined in CEQA Guidelines Section 15065(a)(3), means that the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

CEQA Guidelines Section 15355 defines a cumulative impact as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

18.9.1 CUMULATIVE IMPACT APPROACH

This cumulative analysis uses the "list" approach to identify the cumulative setting. The Placer County Environmental Review Ordinance (Placer County Code, Chapter 18) provides the following direction for this approach. When the cumulative impact analysis is performed by listing all known projects (the "list" approach), the following projects shall be considered:

- 1. Projects partially occupied or under construction;
- 2. Projects which have received final discretionary approvals;
- 3. Projects whose applications have been accepted as complete and are currently undergoing environmental review; and
- 4. Proposed projects that have been discussed publicly by an applicant or that otherwise become known to the lead department, provided sufficient information is available about the project to allow at least a general analysis of environmental impacts.

18.9.2 CUMULATIVE SETTING

GEOGRAPHIC SCOPE

The geographic area that could be affected by the project varies depending on the type of environmental resource being considered. When the effects of the project are considered in combination with those other past, present, and future projects to identify cumulative impacts, the other projects that are considered may also vary depending on the type of environmental effects being assessed. Table 18-6 presents the general geographic areas associated with the different resources addressed in this analysis.

Table 18-6 Geographic	Table 18-6 Geographic Scope of Cumulative Impacts				
Resources Issue	Geographic Area				
Land Use and Forestry Resources	regional and local (forestry resources), local (limited to project site for land use)				
Population and Housing	regional and local				
Biological Resources	regional and local				
Cultural Resources	local (limited to project site)				
Visual Resources	local (surrounding cities)				
Transportation and Circulation	regional and local				
Air Quality	regional (pollutant emissions that affect the air basin) and immediate project vicinity (pollutant emissions that are highly localized)				
Greenhouse Gas Emissions (GHG) and Climate Change	global/statewide				
Noise	local (immediate project vicinity where effects are localized)				
Soils, Geology, and Seismicity	local				
Hydrology and Water Quality	local and regional				
Public Services and Utilities	regional (water, wastewater, electricity, natural gas, solid waste) and local (police and fire)				
Hazardous Materials and Hazards	local (immediate project vicinity)				

PROJECT LIST

Table 18-7, below, provides the list of projects that meet the requirements stated above, under the Cumulative Impact Approach section. Projects are listed that are in regional proximity to the project site (Placer County), as well as some projects that are similar in nature (biomass related) but not located in the immediate region. This list of projects was utilized in the development and analysis of the cumulative settings and impacts for each resource topic.

Significance criteria, unless otherwise specified, are the same for cumulative impacts as project impacts for each environmental topic area. When considered in relation to other reasonable foreseeable projects, cumulative impacts to some resources would be significant and more severe than those caused by the proposed project alone.

	Table 18-7 Cumulative Project List						
Project Name	Location	Description	Residential Units and/or Non-Residential Area	Project Status			
Cold Springs Specific Plan	Teichert property, Coldstream Road, Town of Truckee	Planned Community	345 residential units;70,000 square feet of retail / commercial	Application complete. Draft EIR review period ended August 26, 2011			
Canyon Springs	Martis Peak Road/Edinburgh Drive, Town of Truckee	Subdivision	177 single-family parcels; 8 affordable housing parcels; 171 acres of open space	Application complete. Public NOP scoping period ended June 2, 2011			

	Tal	ole 18-7 Cumulative Project	ct List	
Project Name	Location	Description	Residential Units and/or Non-Residential Area	Project Status
Pollard Station	West of Pine Cone Road, at Hilltop, Town of Truckee	Age-restricted senior neighborhood: lodge and condominiums (8.05-acres in the Hilltop Master Plan area)	120 residential units	Application complete. Public review period for IS/MND ended August 5, 2011. Application currently on hold.
Gregory Creek Subdivision	Western portion of the Town of Truckee (32.1 acre site)	Planned Development		Application complete. Final EIR in preparation.
Joerger Ranch Specific Plan (PC-3	Intersection of Highway 267, Brockway Road, and Soaring Way, Town of Truckee	Mixed use planned community		Applicants placed project on hold in 2008.
Truckee-Donner Recreation and Parks District Cultural Arts Center	Town of Truckee	Performing arts theatre and classroom (conversion of existing community center)	252-seat theater	Application submitted and under review.
Hirschfield Cindercone Mine	7 miles northeast of ERL, northwest of the Glenshire Subdivision (Old Hwy 40 and Archery View)	Mining and reclamation permit (ten-year permit review)		Application submitted and under review.
Northstar-At- Tahoe Alpine Coaster	Martis Valley Community Plan Area, Truckee/Martis Valley Area	All-weather toboggan ride		Application submitted; project currently on hold.
Northstar-At- Tahoe Ski Trail Widening	Martis Valley Community Plan Area, Truckee/Martis Valley Area	Widen existing ski trails over 2,252 acres and snowmaking hydrant relocation.		Application complete. Public review period for IS/MND public review ended 1/12/11.
Northstar Mountain Lodge	Placer County - Truckee/Martis Valley Areas	One-story building north for restaurant and cafeteria services, retail, lounge.	15,750 square feet	Operational
Northstar Overall Mountain Master Plan	Martis Valley Community Plan Area, Truckee/Martis Valley Areas	Mountain Master Plan for the existing ski resort area. Various additions and changes to ski lifts, snowmaking, trails, bridges, access, ropes course, bike trails, and campsites.		Application complete. EIR under preparation.
Calpeco Energy's 625 and 650 Line Electrical Upgrade Project	Truckee River Corridor/North Lake Tahoe	Upgrading two electrical lines and associated substations to increase capacities from 60kV to 120 kV.		Application complete. EIR under preparation.

	Table 18-7 Cumulative Project List					
Project Name	Location	Description	Residential Units and/or Non-Residential Area	Project Status		
Squaw Valley Village Improvement Projects	Truckee River Corridor/North Lake Tahoe	Further development of the existing village to provide additional lodging and resort amenities.		Application submitted and under review.		
Truckee River Corridor Access Plan	Truckee River Corridor/North Lake Tahoe	Continuous and coordinated system of preserved lands and habitat, with a connecting corridor of walking, in-line skating, equestrian, bicycle trails, and angling and boating access from Lake Tahoe to the Martis Valley.		Application submitted; design and environmental review underway.		
SR 89/Fanny Bridge Improvement Project	Truckee River Corridor/North Lake Tahoe	Construction of a new bridge over the Truckee River, repair or replacement of Fanny Bridge, and various other improvements.		Application complete. NOP scoping period ended January 30, 2012. EIR under preparation		
Homewood Mountain Resort Master Plan	HMR Ski Area Master Plan, Truckee River Corridor/North Lake Tahoe	Redevelop mixed-uses at the North Base area, residential uses at the South Base area, a lodge at the Mid-Mountain Base area, and ski area.		EIR/EIS certified and project approved in December 2012.		
Sierra BioFuels Project	Tahoe-Reno Industrial Center, McCarran, NV	Municipal solid waste (MSW) to ethanol plant. The plant will convert 90,000 tons of MSW into 10.5 million gallons of ethanol per year.		Approved; construction to begin in 2011 and to be completed in 2012		
Honey Lake Power	Wendel, CA	Biomass Energy Project: 32MW biomass solid fuel		Operational (19 MW)		
Pacific Oroville Power Inc.	Oroville, CA	Biomass Energy Project: 18MW biomass solid fuel		Operational		
Rio Bravo Rocklin	Rocklin, CA	Biomass Energy Projects: 25MW biomass solid fuel		Operational		
SPI Lincoln	Lincoln, CA	Biomass Energy Projects: 18MW biomass solid fuel		Operational		
SPI Loyalton	Loyalton, CA	Biomass Energy Projects: 20MW biomass solid fuel		Constructed, but currently not operational		
SPI Quincy	Quincy, CA	Biomass Energy Projects: 25MW biomass solid fuel		Operational		
Demonstration / Research Project: Economics of Fuel Reduction Thinning Treatments on Steep Terrain	Lake Tahoe area and other public forestlands (e.g., Six Rivers National Forest and Klamath National Forest).	Various fuel reduction thinning treatments, including chainsaw felling, pulling of whole trees, pulling felled trees, and centralized biomass harvesting system. Recovered fuel would be delivered to a biomass energy plant.		On hold		

	Table 18-7 Cumulative Project List					
Project Name	Location	Description	Residential Units and/or Non-Residential Area	Project Status		
Carnelian Fuels Reduction and Healthy Forest Restoration Project (LTBMU Project)	Adjacent to Cedar Flat, Carnelian Bay, Tahoe Vista, and Kings Beach	Mechanical, hand, and prescribed burning treatments to reduce surface fuels and conifer density.		Decision expected in Spring 2012		
Incline Fuels Reduction and Healthy Forest Restoration Project	Adjacent to Incline Village, Nevada	Mechanical, hand, and prescribed burning treatments. Tree thinning, biomass removal, prescribed burning, chipping, and mastication.		Decision expected April 2012		
Site and Facility Master Plan for the Eastern Regional Landfill	Within project study area	Expanded MRF facility, parking and vehicle storage, expanded TART parking and vehicle storage, expanded DPW facilities.		Approved; partially implemented		
Sources: USDA Forest	Service LTBMU, Town of Truck	kee, UC Davis	1			

LAND USE

Land use impacts related to zoning and land use compatibility are typically site-specific and do not combine to create significant cumulative impacts. With regard to forestry resources, on a regional basis, a significant cumulative impact exists as a result of past and present development activities, which resulted in conversion of forest lands to non-forest uses in the Tahoe-Truckee area. Related projects such as subdivisions, commercial, industrial, transportation, and other infrastructure projects (see Table 17-1, Cumulative Project List) within the Tahoe-Truckee area have and would result in conversion of substantial areas (several hundreds of thousands of acres) of forest land. While the project is located within forested lands, the project would not result in cumulatively considerable impacts to forestry resources because the project site is small and contains limited forestry resources (44 trees) such that removal would not interfere with the economic viability of surrounding forested lands; substantial forestry resources are and would continue to be available surrounding the site (thousands of acres) and the project would not directly or indirectly affect the use or management of these resources; and the project would continue the purpose and intent of the County's designation for the site to provide facilities that are important to maintain the County's health and welfare. Therefore, the project would not have a cumulatively considerable contribution to the significant cumulative forestry impact.

POPULATION AND HOUSING

Past, present, and future development activities such as subdivisions and commercial projects within the Tahoe-Truckee area have resulted in population growth, and cumulative impacts associated with growth (i.e. air quality, public services etc.). Cumulatively, regional growth and development has resulted in an adequate housing stock with a vacancy rate of 3.6 percent for the Town of Truckee. Cumulative population and housing impacts would not be significant. The project would create up to 23 jobs during the construction phase and 17 operational jobs. These jobs would not be expected to result in substantial growth in the area. Further, while one house removed to construct the project, this would not constitute displacement of large numbers of people or housing. Therefore, the project would not result in a considerable contribution such that a significant cumulative population and housing impact would occur.

BIOLOGICAL RESOURCES

The cumulative development within the County, including development projects in the Town of Truckee, and elsewhere in the region, would be expected to contribute to significant cumulative biological resource impacts. The type of biological impact would be site specific and would depend on the unique characteristics of each site. The project would result in incremental impacts related to loss of nesting birds and conflict with the Placer County tree ordinance. However, as described in Chapter 5, Biological Resources, the project includes mitigation, Mitigation Measures 5-1 and 5-2 a and b to reduce its impacts to nesting birds and conflicts with the Placer County tree ordinance to a less-than-significant level. This mitigation would ensure that appropriate measures would be in place to prevent the loss or disturbance of nesting birds and to replace, through new plantings, trees that are removed from the project site and are protected under the County's tree ordinance. Therefore, the project's contribution be reduced through implementation of recommended mitigation and would not result in a cumulatively considerable contribution to the significant cumulative impact.

The Sierra Nevada Forest Plan Amendment (USFS 2004, 2007) establishes standards and guidelines to protect sensitive biological resources while conducting forest management activities to reduce the risk of wildlife and promote overall forest health. USFS' management direction for sensitive species habitat is designed with the primary objective to conserve rare and likely important components of the ecological landscape such as stands of mid- and late-seral forests with large trees, structural diversity and complexity, and moderate to high canopy cover. Thinning from below and uneven-age management are the principal silvicultural prescriptions to achieve immediate objectives. Thinning trees and removing underbrush in strategic locations, whether by mechanical means or wildfire, would be the primary means of creating conditions that favor regeneration of shade-intolerant species and maintain gene pools of these species.

Other land managers, such as California Tahoe Conservancy and California State Parks, have similar goals and objectives to promote biodiversity within forest ecosystems and are undertaking projects to achieve their goals while protecting sensitive resources. The agencies have measures in place to ensure that biological resources, including special-status species, riparian habitats, wetlands, or other waters of the U.S., are protected during forest management activities. Therefore, the cumulative impact of forest management on biological resources in the region is considered to be less than significant.

As described in Impact 5-3, the project would not harvest forest residuals and would not otherwise directly cause specific fuel reduction or forest management projects to occur; rather, the project would enable waste products from independent forest projects to be sold as biomass fuel instead of requiring an alternate disposal mechanism such as pile burning. The woody biomass fuel source for the project would be derived from independent projects that would require compliance with existing laws and regulations. The projects that could generate forest residuals for use as biomass are likely to occur regardless of whether the proposed facility is in operation because the TNF, LTBMU, or other land managers, such as California Tahoe Conservancy, California State Parks, and local fire protection districts have existing, and planned forest management projects that would occur without the project. In the absence of the project, the residual forest material would normally be burned in piles, chipped in place, or otherwise treated on site. Because of the substantial past, existing, and planned forest management projects, this project's demand for forest residual biomass would be highly unlikely to change the forest management goals of TNF, LTBMU, or other land managers, such as California Tahoe Conservancy, California State Parks, and local fire protection districts (Conway, pers. comm., 2012, Fournier, pers. comm., 2012).

As outlined in the project description, woody biomass fuel source is abundant in the region. There is more fuel supply than the biomass plant would require on an annual basis over the 40-year planning horizon (Placer County 2011). Because of the fuel abundance, Placer County has stated a goal of focusing the fuel source for the proposed facility within a 20-30 mile radius. Most of the land within that radius is managed by TNF and LTBMU. TNF estimates that most of the woody biomass that they would dispose at the proposed plant would have

otherwise been piled, left to dry for period of time, and open burned at a later point in time (Conway, pers. comm., 2012). Similarly, LTBMU estimates that all the biomass that would be delivered to the plant would have otherwise been pile burned (Fournier, pers. comm., 2012). Pile burning would not be eliminated as a disposal option for some forest management projects conducted by USFS because restrictions on using mechanized equipment in sensitive areas make use of biomass material from those locations economically infeasible. Overall the amount of forest biomass material that is currently pile-burned would be reduced, because much of it could be delivered to the proposed biomass plant.

TNF and LTBMU have delivered a portion of their forest residuals to other biomass plants in the past, including facilities in Loyalton and Carson City. However, neither of those facilities are currently operational and other facilities in Rocklin, Lincoln, or Honey Lake are too far to make the cost of transporting the material economically feasible. The proposed Cabin Creek facility would provide a disposal option in addition to pile burning, masticating, or chipping.

Disposing the forest residuals at the proposed biomass plant instead of pile burning would have little effect on biological resources as it is USFS's practice to leave sufficient material to support wildlife habitat in addition to the material normally burned. In sensitive areas, such as steep slopes or where soils do not allow mechanized equipment, crews using hand equipment would continue to be required during forest management. However, in less sensitive areas where mechanized equipment is permissible and feasible to operate, forest residuals would be chipped on site, loaded into a chip van and trucked to the biomass plant, instead of collected into piles. Because the piles of forest residuals need to dry and certain weather and other environmental conditions need to be met before burning, the piles are often left in the forest for one or more years. Work crews then typically return at a point later in time to burn the piles.

The expected change as a result of the proposed project would be to eliminate the need to make a second trip to the project site to burn the aged piles of forest residuals. The residuals would be chipped during the initial vegetation removal and hauled to the biomass facility. In general, no changes would occur to forestry practices. The same areas planned for forest management projects would undergo treatment; the same haul roads would be used; and the same general types of equipment that are currently used for forest management practices would be used to supply fuel for the project.

Another possible result of hauling biomass to the proposed facility is that forest projects could be completed more quickly because processing and hauling can occur in the same season as the forest management project as compared to having to wait for piles to dry and then return later to burn piles (Fournier, pers. comm., 2012). The payment received for the materials may offset some project costs, but would not substantially change the acreage of forest projects completed, because the cost per acre for forest management projects is significantly more than the value of the biomass chips (Fournier, pers. comm., 2012, Conway, pers. comm., 2012). Although the proposed biomass facility may assist in a more efficient completion of forest projects and provide an economic offset, neither TNF nor LTBMU expect the proposed biomass facility to substantially change the location, size, pace, objectives, or methods of their forest projects. The planning and approval process for forest projects is the largest constraint to USFS operations and would remain unchanged with the proposed biomass facility.

CULTURAL RESOURCES

Past, present, and future development activities within the Tahoe-Truckee area have resulted in significant cumulative impacts to cultural resources, including resources associated with Native Americans present in the region prior to contact, paleontological resources, and historic resources. The extent of this loss is unknown because much of the disturbance has occurred during the settlement of the region, and prior to enactment of protective regulations such as the National Historic Preservation Act, and the California Native American

Historical, Cultural, and Sacred Sites Act. Overall, cumulative cultural and paleontological resource impacts are considered significant.

The project site has low to moderate sensitivity with respect to the presence of archaeological and paleontological resources. No resources have been recorded on the site, which is partially disturbed, and a reconnaissance of the site did not detect any surface resources. Further, in the event that resources are discovered during construction, the project incorporates mitigation to reduce its impacts to the extent that the project would not contribute considerably to the cumulative impact (see Mitigation Measures 6-1 through 6-3). Therefore, the project would not result in a considerable contribution to the significant cumulative impact on cultural resources.

VISUAL RESOURCES

Past, present and future development activities within the project area have resulted in significant cumulative impacts to the visual resources of the area. Roads, housing developments, and commercial and industrial development have resulted in vegetation removal, alteration of terrain, and visual obstruction that has adversely affected views of forests, rivers, meadows, and mountains. For example, scenic views of the Sierra Nevada crest from the Truckee area are interrupted by buildings, commercial signage, and overhead utilities, which detract from scenic views. This development has taken place over many years, is ongoing, and as a result, a significant cumulative impact to visual resources has occurred in the area.

Views of the surrounding landscape near the project site, however, are limited by the forest and terrain. The project site is not visible from any Officially Designated State Scenic Highway, and is not visible from State Route 89, which is an Eligible Scenic Highway. Existing visual quality of the project site is considered moderately low due to the previous development of the Eastern Regional MRF, Transfer Station, and the TART Facility. There are no unique trees or rock outcroppings on or near the project site. Viewer sensitivity is considered low because visitors to the site are generally associated with work activities such as waste disposal and recycling, or are present for the purpose of attending to TART business. There are no developed recreational facilities near the project site. The project would have an appearance similar to the existing surrounding Eastern Regional MRF and Transfer station facilities and would not detract from the existing visual quality and character of the area surrounding the project site. Therefore, the project would not have a substantial contribution to the significant cumulative visual impact.

TRANSPORTATION AND CIRCULATION

Cumulative background traffic volumes were calculated based on the cumulative project's identified in Table 18-8 and where reasonably available data regarding anticipated traffic volumes could be obtained. Some projects identified in Table 18-8, are not far enough along in the planning process to provide an estimate of project-related traffic. Where data was available, traffic volumes generated by the projects listed in the table were added to the existing traffic volumes at the study intersections. Traffic was generated for the projects using approved traffic studies if available. For most cases a traffic study was not available and traffic was generated using Institute of Transportation Engineers (ITE) and TRPA Trip Table trip generation rates. An annual growth rate was not applied to the existing traffic volumes because the data provided in Table 8-2: Historical Average Daily Traffic Volumes indicates that traffic volumes in the area have decreased on SR 89 during the last decade. Table 18-8, below, shows the cumulative conditions trip generation.

Table 18-8 Cumulative Conditions Project Trip Generation						
Project	Land Use Type	Daily Trip Generation	PM Peak Hour Trip Generation	Notes		
Kings Beach Town Center	Mixed Use Project	2,170	217	Estimate from Sandy Beach. An initial study has been prepared for the environmental documentation; the traffic study has not yet been completed.		
Domus Affordable Housing	Mixed Use Project	350	62	From the Domus Chipmunk Street Affordable Housing and Mixed-Use Development Traffic and Air Quality Study (LSC Transportation Consultants)		
Ferrari Family Resort	29,000 sf Retail (new use)	1,448	108	Estimate using ITE and TRPA Trip Table trip generation rates.		
Kings Beach Lakeside Resort	1,200 sf Retail	60	4	Estimate using ITE and TRPA Trip Table trip generation rates.		
Boulder Bay	Mixed Use Project	1,000	60	From the Boulder Bay CIP EIS		
Dastoro /Duan	2,600 sf Retail	112	10	Estimate using ITE and TRPA Trip Table		
Pastore/Ryan	1,700 sf Office	19	3	trip generation rates.		
Homewood	Mixed Use Project	1,466	176	From the Final Homewood Mountain Resort EIR/EIS		
Kings Beach Commercial Core Improvement Project	Road Diet	2,100 daily trips (201 PM peak hour trips) will shift from SR 28 to Speckled Avenue with the Commercial Core Project.		From the Kings Beach Urban Improvement Traffic Report (LSC Transportation Consultants).		
Tahoe Vista Partners LLC Affordable Housing Project	55 Houses	299	19	From the Tahoe Vista Partners LLC Affordable Housing Project EIR/EIS		
North Tahoe Marina Expansion	200 Boat Slips	592	38	Estimate using ITE and TRPA Trip Table trip generation rates.		
	TOTALS	7,516 ¹	69 ¹			

Notes: ¹ Total volume does not include Kings Beach Commercial Core Improvement Project.

Source: Fehr & Peers, 2012

Table 18-9 shows the cumulative intersection turning movement volumes at the study intersection for the Friday PM peak period. Cumulative conditions intersection lane configurations, control types, and turning movement volumes are shown on Figure 8-8.

Table 18-9 Cumula	umulative Intersection Turning Movement Volumes – Friday PM Peak Hour						
Intersection	Tuming Movement Volume						
IIILEISECUOTI	NBL	NBT	SBT	SBR	EBL	EBR	
SR 89/Cabin Creek Road	10	670	595	10	30	15	

Notes: Two-way daily and peak hour count data was collected in April 2011 along with Caltrans data and volumes were balanced to obtain intersection turning movement counts. Raw count data is provided in Appendix C. Source: Fehr & Peers, 2012

Intersection level of service analysis was performed at the study intersection using Synchro software which utilizes HCM 2000 methodology. Table 18-10 shows the cumulative conditions intersection level of service results.

Table 18-1	O Cumulative Inters	section Level of Service Res	sults		
Intersection	Control Type ¹	Friday PM Peak Hour			
intersection	Condoi type-	Delay ²	LOS		
SR 89/Cabin Creek Road	SSSC	1.2 (33.2)	A (D)		

Notes: 1 SSSC = Side Street Stop Control

² Delay is reported in seconds per vehicle for the overall intersection (worst movement) for unsignalized intersections.

Sources: Fehr & Peers, 2011

As shown in the table, the overall intersection LOS would be A under cumulative no project conditions. As shown in Table 18-11, the proposed project would not cause the LOS at the study intersection to degrade to an unacceptable LOS (i.e., LOS E or worse) under cumulative plus project conditions. Therefore, the project's cumulative LOS impacts would not result in significant intersection impacts. Nonetheless, the project would contribute traffic trips to the County roadway system. On a long-term cumulative basis, the County requires that any project that contributes traffic trips would be required to pay the County's traffic impact fees. Therefore, County has determined that the project's contribution of trips to the roadway system would be a cumulatively considerable impact. Implementation of the following mitigation measure, which requires payment of traffic fees would reduce this impact such that the project's impact would not be cumulatively considerable.

Table 18-11 0	Cumulative Plus Project Intersection Level of Service Results						
		Friday PM Peak					
Intersection	Control Type ¹	Cumu	ılative	Cumulative Plus Project			
		Delay ²	LOS	Delay ²	LOS		
SR 89/Cabin Creek Road	SSSC	1.2 (33.2)	A (D)	1.4 (34.9)	A (D)		

Notes: 1 SSSC = Side Street Stop Control

² Delay is reported in seconds per vehicle for the overall intersection (worst movement) for unsignalized intersections.

Sources: Fehr & Peers, 2011

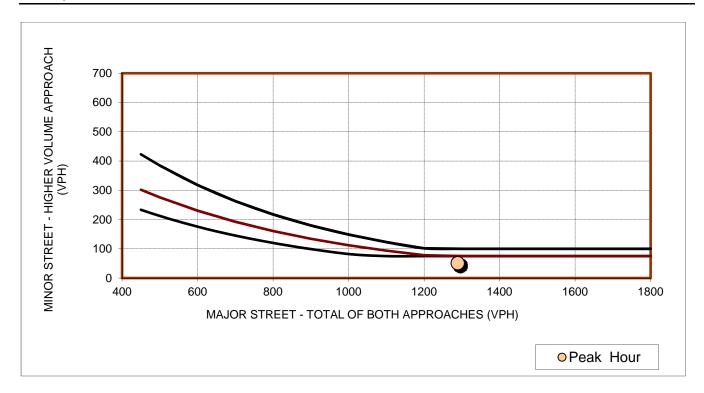
Mitigation Measure 18-1

Prior to the issuance of any building permits, the Applicant shall pay County traffic impact fees that are in effect for the Tahoe Resorts area pursuant to applicable Ordinances and Resolutions. Fees shall be paid to Placer County DPW. Final determination of the fees will be made once the final site plans are submitted and approved by DPW.

As described in Chapter 8, Traffic and Transportation, the Federal Highway Administration (FHWA) provides standards for determining the need for installing a traffic signal in Chapter 4 of the Manual on Uniform Traffic Control Devices (FHWA 2009) (see Impact 8-2).

Table 18-12 and the graph below the table displays the results of signal warrant Criteria A and Criteria B, respectively.

Table 18-12 Cumulative Conditions Peak Hour Signal Warrant Criteria A SR 89/Cabin Creek Road										
	Total Stopped Delay		Minor Street Volume			Total Entering Volume			Criteria A	
Scenario	Delay	Criteria	Criteria Met	Volume	Criteria	Criteria Met	Volume	Criteria	Criteria Met	Met
Cumulative Conditions	0.42 hours	4 hours	NO	45 vehicles	100 vehicles	NO	1,330 vehicles	650 vehicles	YES	NO
Cumulative Plus Project Conditions	0.49 hours	4 hours	NO	51 vehicles	100 vehicles	NO	1,340	650 vehicles	YES	NO
Source: Fehr & Peers, 2012	2									



Under cumulative plus project conditions, the SR 89/Cabin Creek Road intersection would not meet Peak Hour Signal Warrant Criteria A or B with the proposed project. Therefore, this cumulative impact would be less than significant and the project's contribution would not be cumulatively considerable.

AIR QUALITY

Construction and operation of the project would result in emissions of criteria air pollutants (e.g., particulate matter with an aerodynamic diameter of 10 microns or less $[PM_{10}]$) and precursors (e.g., oxides of nitrogen $[NO_X]$ and reactive organic gases [ROG]), in the respective jurisdictions of the Placer County Air Pollution Control District (PCAPCD) and the Northern Sierra Air Quality Management District (NSAQMD) in the Mountain Counties Air Basin and the respective jurisdictions of PCAPCD and the El Dorado County Air Pollution Control District (EDCAPCD) in the Lake Tahoe Air Basin. These areas are designated as nonattainment with respect to the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards for ozone, and with respect to the CAAQS for PM_{10} . This nonattainment status is due to the emissions of ozone precursors, including NO_X and ROG, and PM_{10} generated by cumulative development projects in the region. Ozone impacts are the result of the cumulative emissions from numerous sources in the region and transport from outside the region. Ozone is formed in chemical reactions involving NO_X , ROG, and sunlight. All but the largest individual sources emit NO_X and ROG in amounts too small to have a measurable effect on ambient ozone concentrations by themselves. However, when all sources throughout the region are combined, they result in severe ozone problems. Therefore, NO_X , ROG, and PM_{10} emissions from cumulative development are considered to be cumulatively significant.

Air districts in California develop air quality attainment plans designed to reduce emissions of ozone precursors enough to attain the federal ozone standard by the earliest practicable date. Air quality attainment plans include a multitude of air pollution control strategies. When developing air quality attainment plans, air districts account for the emissions from all present and future development in the region by relying on city and county general plans. Because the proposed project would be consistent with the land use designation in the Placer County General Plan, emissions associated with development of the project are accounted for in PCAPCD's air quality attainment plan. Also, project-related construction and operational emissions would not exceed the applicable mass emission thresholds established by PCAPCD, NSAQMD, and EDCAPCD. Moreover, the quantitative analysis

in Section 9, Air Quality does not account for levels of emissions associated with the open burning of forest thinning debris and hazardous fuels in area forests that would be avoided by the operation of the biomass plant. Thus, the contribution of short-term construction and long-term operational emissions of NO_X and ROG by the proposed project, combined with other cumulative sources of ozone precursors in the region, would be not be cumulatively considerable.

 PM_{10} has a similar cumulative regional emphasis when particulates are entrained into the atmosphere and build to unhealthful levels over time. PM_{10} , however, also has the potential to cause significant local problems during periods of dry conditions accompanied by high winds, and during periods of heavy earth disturbing activities. PM_{10} may have cumulative local impacts if, for example, several unrelated grading or earth moving projects are underway simultaneously at nearby sites. For cumulative analysis, this EIR examines the potential PM_{10} exposure to sensitive receptors near the project site from construction-related earth disturbing activities from the project and any construction of nearby projects that may occur at the same time. Based on a review of the cumulative projects and their timing with respect to this project, it is not anticipated that other earth movement activities associated with nearby cumulative projects would occur at the same time as grading and earth movement for the proposed project. Furthermore, the project-level impact would be less than significant with respect to PM_{10} emissions, as discussed Impact 9-1. As a result, PM_{10} emissions from proposed project would not be cumulatively considerable.

As described in Section 9, Air Quality, implementation of the project would result in less-than-significant local mobile source CO–related air quality impacts. CO emission factors in future years are expected to be lower than current levels due to more stringent vehicle emissions standards and improvements in vehicle emissions technology. Ambient local CO concentrations under future, cumulative conditions would continue to decline. Therefore, 1- and 8-hour CO concentrations for the future cumulative conditions would not be anticipated to exceed the significance thresholds of 20 parts per million (ppm) and 9 ppm, respectively. Consequently, the project would not result in a cumulatively considerable incremental contribution such that a significant cumulative impact related to CO concentrations would occur.

As discussed under Impact 9-4, the project would not generate significant health risks associated with toxic air contaminants, because it would not expose any single receptor to a level of cancer risk that exceeds an incremental increase of 10 in one million, or to a noncarcinogenic Hazard Index of 1. PCAPCD also recommends using these thresholds for determining whether the health risks of an individual project are cumulatively considerable in combination with other nearby sources of toxic air contaminants (TACs) such as diesel trucks, buses, and off-road equipment operated at the Tahoe Area Regional Transit facility (Chang, pers. comm. 2012). Therefore, the increases in health risk attributable to the proposed project would not be cumulatively considerable.

The project would not generate significant odors, as discussed under Impact 9-5. Because of the localized character of odor-related impacts, the project would not have cumulatively considerable contribution to odor complaints such that a significant cumulative odor-related impact would occur.

GREENHOUSE GAS EMISSIONS (GHG) AND CLIMATE CHANGE

See Chapter 10, Greenhouse Gas Emissions and Climate Change.

NOISE

SHORT-TERM CONSTRUCTION-GENERATED NOISE

Cumulative impacts from construction-generated noise could result if other future planned construction activities were to take place in close proximity to the project and cumulatively combine with construction noise

from the project. However, no other construction activity is planned to take place in close proximity to the proposed project. No significant cumulative impacts currently exist. Further, construction-related noise is typically a site specific impact that affects those in close proximity to the construction activities. Project-generated construction noise is exempt from the county noise standards. Therefore, because no other construction activities would cumulatively combine with the project and project generated construction noise is exempt from county noise standards the projects short-term construction-generated noise would not result in a substantial contribution such that a new significant cumulative noise impact would result.

LONG-TERM AMBIENT NOISE LEVELS

Cumulative noise levels could be affected by additional buildout of surrounding land uses and increases in vehicular traffic on affected roadways. Several new retail, commercial, and residential developments are planned for the town of Truckee in the near future (e.g., Cold Springs Specific Plan, Gregory Creek Subdivision). Noise levels from Highway 89 currently exceed the Placer County noise standards at nearby sensitive receptors; noise levels range from 60 dB to 67 dB, compared to a standard of 60 dB. These projects could result in additional traffic-related noise on surrounding roadways and would contribute to significant cumulative noise impacts.

Future traffic noise levels were modeled based on Caltrans' traffic noise analysis protocol and the technical noise supplement (Caltrans 2006 and 2009) and project-specific traffic data (Appendix C of this EIR) and are presented in Table 11-4. As shown by the modeling, traffic noise levels would not result in a substantial increase in noise levels (i.e., less than 1 dB) on Cabin Creek Road and no increase in traffic noise on SR 89. A 3dB increase would be an audible change. At less than 1dB, noise increases would not be noticeable. Further, the truck trips added to affected roadways would occur during typical business hours of the day when people are less likely to be disturbed by traffic noise. For these reasons, even though noise currently exceeds County standards at some sensitive receptors, the project's contribution to this increase would not be considerable. Therefore, noise generated from project operation would not result in considerable contribution to a significant cumulative noise impact.

The proposed project would result in additional noise sources from stationary equipment such as an internal combustion engine, water pumps, fans, and associated truck noise related to loading and unloading material at the project site. The project site is an existing industrial land use that is relatively remote and distant from offsite residential neighborhoods. While there is one existing temporary caretaker's residence located 775 feet to the west of the proposed project, as described in Chapter 11, Noise, the additional project-generated noise would not result in a substantial increase in ambient noise levels at this residence or to surrounding areas. Related projects would not cumulatively combine with stationary ambient noise levels at the project site because noise is typically site specific and dissipates with distance from the source. The future planned projects would not be located close enough to the project site for stationary noise to combine with project noise levels. Therefore, the project in combination with other projects would not result in a considerable contribution to a significant cumulative noise impact.

SOILS, GEOLOGY, AND SEISMICITY

Risks to people and structures as a result of seismic hazards are addressed on a site-specific basis. The State earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that all new structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. All development projects must comply with these requirements. Therefore, no significant cumulative impacts are identified related to seismic hazards, and the project would not have a considerable contribution such that a new significant cumulative impact would occur.

HYDROLOGY AND WATER QUALITY

Several new retail, commercial, and residential developments are planned for the town of Truckee in the near future (e.g., Cold Springs Specific Plan, Gregory Creek Subdivision). Additional development in this area would result in increased impervious surfaces that could lead to construction and operational related impacts to the regional hydrology and water quality. Temporary discharges of sediment and other contaminants into the nearby Truckee River and Lake Tahoe could result from construction activities. Increases in impervious surfaces from these developments could interfere with the ability of groundwater supplies in the Martis Valley Groundwater Basin to recharge and could result increased runoff during peak storm events, thus bringing more pollutants and sedimentation into the nearby surface waters. Cumulative hydrology and water quality impacts would be potentially significant.

The project could result in temporary discharges of sediment and other contaminants into ephemeral drainages and Truckee River located to the east of the project site. However, as discussed in Chapter 13, Hydrology and Water Quality, implementation of Mitigation Measure 13-1 a through f, would require the applicant to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) and obtain coverage under the Industrial Facilities Storm Water General NPDES Permit from the Lahontan RWQCB, which would minimize erosion from site soils and pollutants would be captured on the site. Additionally, erosion and sediment control measures would be implemented, a grading plan would be developed, and the applicant would be required to adhere to construction and operational BMPs that would reduce impacts from increased runoff, and the project includes new stormwater facilities that could adequately convey project-related stormwater. Because the proposed project would implement site-specific mitigation consistent with the Lahontan RWQCB and County requirements to adequately convey and treat site stormwater, the project's stormwater impacts would be reduced to a less-than-significant level such that it would not result in a considerable contribution to a potentially significant cumulative effect on water quality or hydrology.

PUBLIC SERVICES AND UTILITIES

Past and present development activities such as subdivisions and commercial projects within the Tahoe-Truckee area have resulted in increased demand for public services including demands for utilities, fire protection, and police services. Future development would increase the demands on utilities and public services. The adequacy of the existing and planned utility infrastructure and public service capabilities to meet a project's needs is a key component of the project review process conducted by the jurisdiction in which a project is located. Based on this review process, future development projects that exceed the capacity of the available utility infrastructure and public service capabilities would be required to provide the necessary improvements to ensure utility capacity and public service capabilities are not exceeded. Therefore, on a cumulative basis, public service and utility impacts are considered less than significant.

The proposed project is not anticipated to contribute significantly to the demand for utilities and public services as adequate services are available to meet the project's needs or would be constructed as an element of the project (e.g., electrical line extension, detention basin, wastewater connections, and redundant water well). Thus, the project would not have a considerable contribution such that a significant cumulative impact to public services and utilities would occur.

HAZARDOUS MATERIALS AND HAZARDS

Under existing conditions, sources of hazardous materials generation in the project area include, particulate emissions from wood smoke, soil disturbance from construction projects, exposure to hazardous materials being transported along major transportation routes (I-80, SR 89 and by rail)(see Chapter 9, Air Quality; Chapter 12, Geology, Soils, and Seismicity; and Chapter 16, Hazardous Materials and Hazards). Related projects would have the potential to contribute to cumulative exposure to hazardous materials and hazards in the project area by

increasing the transport of commonly used hazardous materials (e.g., gasoline, diesel, propane, and solvents). However, the related past, present and reasonably foreseeable projects in the project vicinity are not expected to substantially alter the exposure to hazardous materials and hazards in the project area. As described in Chapter 16, Hazardous Materials and Hazards, businesses and operators using or transporting hazardous materials are required to comply with federal, State, and local laws and regulations addressing hazardous materials management and environmental protection, including, but not limited to 49 CFR 173 and 177, and CCR Title 26, Division 6 for transportation of hazardous materials, and CCR Titles 8 and 22, Uniform Fire Code, and Division 20 of the California Health and Safety Code for routine use of hazardous materials. These regulations and codes must be implemented, as appropriate, and are monitored by the State and/or local jurisdictions, including Caltrans, the CHP, the Placer County and Nevada County Environmental Health Divisions, Truckee Fire Protection District, and the North Tahoe Fire Protection District. Because of the extensive regulatory requirements associated with the use of hazardous materials and fire safe operations, no significant cumulative impacts related to hazardous materials and hazards is identified in the area. As previously described, the project would be subject to these same extensive regulatory requirements, the project would not make a contribution to impacts related to exposure of the public to hazardous materials and hazards, such that a significant cumulative impact would be created. Therefore, the project would not have a considerable contribution such that a significant cumulative impact with respect to exposure to hazardous materials and hazards would result.